IV.15 MINERAL RESOURCES

This chapter analyzes how implementation of the Desert Renewable Energy Conservation Plan (DRECP) Bureau of Land Management (BLM) Land Use Plan Amendment (LUPA) alternatives could potentially impact mineral resources. Existing mineral resource conditions are described in Volume III, Chapter III.15. Development Focus Areas (DFAs) and BLM proposed conservation actions for each alternative are primary concerns in considering and quantifying the extent to which mineral resources would be affected.

IV.15.1 Approach to Impact Analysis

This impact analysis for mineral resources is based on the potential effects of BLM proposed actions, including both renewable energy activities and the conservation designations. Assumptions used in the impact analysis include the following:

- DFA approval would not affect existing mining operations authorized under plans of operation allowed under the Code of Federal Regulations (43 CFR 3809), authorized solid minerals leases (43 CFR 3600), and all other active surface and underground mineral extraction operations.
- Active mining claims, including placer claims, lode claims, and mill sites would not be affected by DFAs and proposed conservation designations.
- Areas of current mineral exploration authorized with plans of operation or notice-level operations would not be affected by DFAs and proposed conservation designations (43 CFR 3809).
- Existing leases and claims would not be affected by lands either identified as DFAs or within proposed conservation designations.

Appendix R2.15 contains tables that support information in this chapter. Data in those tables quantify potential acreage for renewable energy development and describe conservation designation impacts on each of the mineral resources analyzed.

This Environmental Impact Statement (EIS) is a programmatic document; its analysis primarily concerns typical impacts and does not evaluate the site-specific impacts of specific projects. Project-specific impacts are assessed during the permitting process and in additional National Environmental Policy Act (NEPA) or, depending on jurisdictional issues, joint California Environmental Quality Act (CEQA) documents. Because project sites are yet to be determined, it is possible that impacts on mineral resources may be avoided altogether within the DFAs. This impact analysis is based on tables showing Known Geothermal Resource Areas (KGRA), high-potential mineral areas, existing high-priority mineral or energy locations, rare earth element areas (including radioactive deposits found

at the Mountain Pass Mine), or locatable, leasable, and mineral material resource areas within the LUPA Decision Area.

IV.15.2 Typical Impacts Common to All Action Alternatives

IV.15.2.1 Impacts of Renewable Energy and Transmission Development

The typical effects of renewable energy development (solar, wind, and geothermal) and its associated transmission requirements on mineral resources were evaluated using the Solar Programmatic EIS (PEIS), the Wind PEIS, and the Geothermal PEIS.

If the Proposed LUPA is approved, renewable energy and transmission facilities would be allowed within identified DFAs. The specific locations in which energy and transmission development would be allowed would be driven by LUPA decisions, which may encourage or restrict development in some areas. Each project would be subject to analysis under NEPA and/or CEQA. Project impacts would vary depending upon the proposed technology, location of the project, the timing and degree of disturbance from development, and the size and complexity of the facilities. Existing authorized mineral and energy operations would be allowable uses in the LUPA Decision Area, and unpatented mining claims would be subject to valid existing rights. Existing high-priority mineral and energy operations and their identified expansion areas would be excluded from proposed renewable energy applications. Established access routes to existing authorized operations and areas would also be allowed within proposed DFAs and conservation designations.

IV.15.2.1.1 Impacts of Site Characterization

The site characterization phase of renewable energy and transmission facility development may affect access to mineral resources. These impacts would be:

- Generally short-term, localized access restrictions to ongoing mineral resource lease activities, associated with geotechnical investigations and meteorological tower and access road installations, if required.

IV.15.2.1.2 Impacts of Construction and Decommissioning

The construction and decommissioning of renewable energy and transmission facilities would likely impact mineral resources. Impacts could include the following:

- Solar and geothermal development would be incompatible with and therefore preclude most mineral development activities within developed areas after facilities are built; access may be limited, fragmented, or blocked. An exception to this could be if geothermal resources located below solar facilities could be accessed using

directional drilling technologies. However, within BLM-administered lands, existing authorized mineral and energy operations would be allowable within DFAs, and unpatented mining claims would retain valid existing rights.

- New conservation designations may limit, fragment, or block access to future exploration and mineral resource removal.
- Construction of new access roads for renewable energy and transmission sites would increase access to mineral resource areas.

IV.15.2.1.3 Impacts of Operations and Maintenance

The operation and maintenance of each renewable energy facility would prevent access to mineral resources for as long as 30 years, the typical operational life of generation projects. This impact on access would begin during the construction phase (see Section IV.15.2.1.2) and continue through decommissioning. However, within BLM-administered lands, existing authorized mineral and energy operations would be allowable within DFAs, and unpatented mining claims would retain valid existing rights.

IV.15.2.2 Impacts of Ecological, Cultural, and Recreation Designations

Impacts on mineral resources within designated National Landscape Conservation System (NLCS) lands, Areas of Critical Environmental Concern (ACECs), and wildlife allocations would likely be adverse because of the access restrictions and disturbance caps designed to conserve and protect resources. Conservation designations could adversely affect mineral resources by limiting or restricting access to mineral areas and removing lands from mineral entry or exploration. Existing mineral rights and mining activities could be moderately to severely restricted by disturbance caps and other restrictions imposed within conservation lands. However, existing authorized mineral and energy operations would be allowable within conservation areas, and unpatented mining claims would retain valid existing rights. Existing high priority mineral and energy operations and their identified expansion areas would be excluded from proposed conservation designations. Additionally, established access routes to existing high priority mineral and energy operations would be allowable in conservation designations. Any restrictions to future mining activities or access to sites would affect mineral resource development.

Because the Proposed LUPA land designations would be managed to protect ecological, historic, cultural, scenic, scientific, and recreation resources and values, the use of or access to mineral resources could be restricted or limited. While other land uses may be allowed within these areas, they must be compatible with the resources and values that the land designation is intended to protect.

Details on allowable uses and management within NLCS lands are presented in the Proposed LUPA description in Volume II. Details on the goals, objectives, allowable uses, and management actions for each of the ACEC units appear in the LUPA worksheets in Appendix L.

To the extent that Special Recreation Management Areas (SRMAs) are designated, there would be increased accessibility to mineral locations and existing mining areas, potentially affecting both access and mining activities. If SRMAs exclude No Surface Occupancy renewable energy development (applicable only to geothermal) and maintain or enhance recreational setting characteristics, mineral resource mining may also be limited to No Surface Occupancy or have access restrictions due to recreational designations and activities.

IV.15.3 Impact Analysis by Alternative

The following sections present the impact analyses for the No Action Alternative, the Preferred Alternative, and Alternatives 1 through 4.

IV.15.3.1 No Action Alternative

The No Action Alternative assumes the state's renewable energy goals would be achieved absent the Proposed LUPA, and renewable energy, transmission development, and mitigation for those projects in the LUPA Decision Area would occur on a project-by-project basis in a pattern consistent with past and ongoing renewable energy and transmission projects.

IV.15.3.1.1 Impacts of Renewable Energy and Transmission Development - No Action Alternative

Under the No Action Alternative, existing BLM land use plans within the LUPA Decision Area would continue to be implemented within BLM-administered lands. These land use plans would continue to allow renewable energy and transmission development within certain land designations, including Solar PEIS Solar Energy Zones (SEZs) and solar Variance Lands. These projects would continue to require land use plan amendments for approval if they are proposed outside those areas. In addition, under the No Action Alternative, renewable energy projects would continue to be evaluated and approved with project-specific mitigation requirements.

Impact MR-1: Plan components would reduce or improve access to and development of known and future mineral resources.

Potential impacts on mineral resources resulting from renewable energy and transmission facility development under the No Action Alternative are summarized in Table IV.15-1.

Table IV.15-1
Potential Acres of Mineral Resource Impacts by Technology Type – No Action Alternative

Mineral Resource	Mineral Resources (BLM acres)	Potential Mineral Resource Impacts by Technology Type (BLM acres)			
		Solar	*Wind*	*Geothermal*	*Transmission*
Geothermal resources	104,000	100	0	0	4,000
High potential mineral areas	816,000	5,000	100	30	1,000
High priority mineral & energy locations	76,000	300	0	0	40
Rare earth element areas	40,000	700	0	0	0
Locatable mineral areas	301,000	4,000	20	0	400
Leasable mineral areas	70,000	0	0	0	0
Mineral material areas	92,000	1,000	40	20	500

Note: The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore, the subtotals may not sum to the total in the table.

Potential impacts on mineral resources under the No Action Alternative are listed below and described in more detail in Section IV.15.2.

Geothermal: There would be potential access restrictions to approximately 4,100 acres of geothermal resources from development of solar, wind, and transmission facilities, all of which would be within the Imperial Borrego Valley ecoregion subarea. This is approximately 4% of the defined geothermal resources within the LUPA Decision Area. The potential access restrictions would be very small relative to the geothermal resources within the LUPA Decision Area, even without mitigation requiring avoidance of mineral resources.

High Potential Mineral Areas: There would be potential access restrictions to approximately 6,100 acres of high potential mineral areas from development of solar, wind, geothermal, and transmission facilities, primarily within the Cadiz Valley and Chocolate Mountains and Imperial Borrego Valley ecoregion subareas. This is approximately 0.7% of the defined high potential mineral areas within the LUPA Decision Area. The potential access restrictions would be very small relative to the high potential mineral area acres within the LUPA Decision Area, even without mitigation requiring avoidance of these mineral resources. Existing authorized high potential mineral operations would be allowable within DFAs and unpatented mining claims would retain valid existing rights.

High Priority Mineral and Energy Locations: There would be potential access restrictions to approximately 340 acres of high priority mineral and energy locations from

development of solar and transmission facilities, primarily within the Kingston and Funeral Mountains ecoregion subarea. This is approximately 0.4% of the defined high priority mineral and energy locations within the LUPA Decision Area. The potential access restrictions would be very small relative to the high priority mineral and energy locations within the LUPA Decision Area, even without mitigation requiring avoidance of these mineral resources. Existing authorized high priority mineral and energy operations would be allowable within available development areas and unpatented mining claims would retain valid existing rights.

Rare Earth Element Areas: There would be potential access restrictions to approximately 700 acres of rare earth element areas from development of solar facilities, primarily within the Kingston and Funeral Mountains ecoregion subarea, potentially overlapping the Molycorp Mountain Pass rare earth mine area (which also contains radioactive deposits). This is approximately 2% of the defined rare earth element areas within the LUPA Decision Area. The potential access restrictions would be small relative to the rare earth element areas within the LUPA Decision Area, even without mitigation requiring avoidance of these mineral resources.

Locatable Mineral Areas: There would be potential access restrictions to approximately 4,400 acres of locatable mineral areas from development of solar, wind, and transmission facilities, the majority within the Kingston and Funeral Mountains ecoregion subarea. This is approximately 1.5% of the defined locatable mineral areas within the LUPA Decision Area. The potential access restrictions would be very small relative to the locatable mineral areas within the LUPA Decision Area. Existing authorized locatable mineral operations would be allowable within DFAs and unpatented mining claims would retain valid existing rights.

Leasable Mineral Areas: There would be no potential access restrictions to leasable mineral areas from development of solar, wind, geothermal, or transmission facilities within the LUPA Decision Area.

Mineral Material Areas: There would be potential access restrictions to approximately 1,600 acres of mineral material areas from development of solar, wind, geothermal, and transmission facilities. This is approximately 1.7% of the defined mineral material areas within the LUPA Decision Area. The potential access restrictions would be very small relative to the mineral material areas within the LUPA Decision Area. Existing authorized mineral material operations would be allowable within available development areas and unpatented mining claims would retain valid existing rights.

Design Features of the Solar PEIS

The following design features were defined in the Solar PEIS and would reduce potential impacts on mineral resources. Solar PEIS design features apply only to solar generation projects on BLM-managed lands within defined SEZs and Solar PEIS Variance Lands.

MR-1 Project developers shall consult with BLM in the early phases of project planning to identify potential impacts on mineral development activities and ways to minimize any potential adverse impacts.

a. Impact assessments on mineral resources shall include, but are not limited to, the following actions:

- Identify active mining claims or mineral development activities and potential for mineral development in proximity to a proposed project. In coordination with BLM, developers shall consult existing land use plans and updated inventories.
- Evaluate impacts on mineral development as part of the environmental impact analysis for the project, and consider options to avoid, minimize, and mitigate adverse impacts, in coordination with BLM.

MR1-2 All solar energy development rights-of-way (ROWs) shall contain the stipulation that BLM retains the right to issue geothermal leases with a No Surface Occupancy stipulation within the ROW. Upon designation, SEZs will be classified as No Surface Occupancy areas for geothermal leasing.

IV.15.3.1.2 Impacts of Ecological and Cultural Conservation and Recreation Designations – No Action Alternative

Under the No Action Alternative, there would be continued protection of existing Legislatively and Legally Protected Areas, which include wilderness areas, on BLM-managed lands. Potential impacts on mineral resources resulting from existing ACECs, SRMAs, and Areas Managed for Recreation Emphasis under the No Action Alternative are summarized in Table IV.15-2.

Table IV.15-2
Estimated Acres of Mineral Resources in BLM Land Designations – No Action Alternative

Mineral Resources	Existing SRMAs (BLM acres)	Existing ACECs (BLM acres)	Areas Managed for Recreation Emphasis (BLM acres)
Geothermal resources	23,000	19,000	15,000
High potential mineral areas	65,000	210,000	152,000
High priority mineral & energy locations	0	0	0
Rare earth element areas	0	20,000	12,000
Locatable mineral areas	1,000	101,000	9,000
Leasable mineral areas	0	0	0
Mineral materials areas	600	25,000	30,000

Note: The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore, the subtotals may not sum to the total in the table.

Under the No Action Alternative, exploration and access would continue following the area-specific management plans, including disturbance caps. In addition, unpatented mining claims are subject to valid existing rights and established authorized access routes to existing operations would be allowable in conservation area designations. Typical mitigation measures would reduce or avoid some impacts on mineral resources.

Geothermal: There are approximately 57,000 acres of geothermal resources within existing ACECs, SRMAs, and Areas Managed for Recreation Emphasis, with the majority in the Imperial Borrego Valley ecoregion subarea. This is approximately 44% of the defined geothermal resources within the LUPA Decision Area.

There are existing stipulations and restrictions to access within ACECs, SRMAs, and Areas Managed for Recreation Emphasis. The potential access restrictions would be small relative to the geothermal resources within the LUPA Decision Area, even without measures requiring avoidance or minimization of impacts on mineral resources. Existing authorized geothermal operations would be allowable within ACECs, SRMAs, and Areas Managed for Recreation Emphasis, and unpatented mining claims would retain valid existing rights. Additionally, established authorized access routes to existing operations would be allowable in ACECs, SRMAs, and Areas Managed for Recreation Emphasis.

High Potential Mineral Areas: There are approximately 427,000 acres of high potential mineral areas within existing ACECs, SRMAs, and Areas Managed for Recreation Emphasis

(primarily within ACECs and Areas Managed for Recreation Emphasis) throughout the LUPA Decision Area. This is approximately 43% of the defined high potential mineral areas within the LUPA Decision Area.

There are existing stipulations and restrictions to access within ACECs, SRMAs, and Areas Managed for Recreation Emphasis. The potential access restrictions would continue to be significant, relative to the high potential mineral areas within the LUPA Decision Area. Measures requiring avoidance or minimization of impacts on mineral resources would reduce impacts. Existing authorized high potential mineral area operations would be allowable within ACECs, SRMAs, and Areas Managed for Recreation Emphasis and unpatented mining claims would retain valid existing rights. Existing operations and their identified expansion areas would be excluded from proposed conservation designations. Additionally, established authorized access routes to existing operations would be allowable in conservation designations.

High Priority Mineral and Energy Locations: There are no acres of high priority mineral and energy locations within ACECs, SRMAs, or Areas Managed for Recreation Emphasis. There would be no access restrictions to the high priority mineral and energy locations within the LUPA Decision Area.

Rare Earth Element Areas: There are approximately 32,000 acres of rare earth element areas within existing ACECs and Areas Managed for Recreation Emphasis, primarily within the Pinto Lucerne Valley and Eastern Slopes ecoregion subarea and the CDCA Plan Area outside the DRECP area boundary. This is approximately 54% of the defined rare earth element areas within the LUPA Decision Area.

Existing authorized rare earth operations would be allowable within conservation areas and unpatented mining claims would retain valid existing rights. Established authorized access routes to existing operations would be allowable in conservation area designations. Rare earth element areas would not likely be impacted due to specific measures requiring avoidance of these areas.

Locatable Mineral Areas: There are approximately 111,000 acres of locatable mineral areas within existing ACECs, SRMAs, and Areas Managed for Recreation Emphasis throughout the LUPA Decision Area. This is approximately 36% of the defined locatable mineral areas within the LUPA Decision Area.

There are existing stipulations and restrictions to access within existing ACECs, SRMAs, and Areas Managed for Recreation Emphasis. The potential access restrictions would be minor, relative to the locatable mineral areas within the LUPA Decision Area and the location of the resources in relation to population centers and areas where renewable energy could be

developed. Existing authorized locatable mineral area operations would be allowable within conservation areas and unpatented mining claims would retain valid existing rights. Existing operations and their identified expansion areas would be excluded from proposed conservation designations. Additionally, established authorized access routes to existing operations would be allowable in conservation area designations.

Leasable Mineral Areas: There are no acres of leasable mineral areas within existing ACECs, SRMAs, or Areas Managed for Recreation Emphasis. There would be no access restrictions to the leasable mineral areas within the LUPA Decision Area.

Mineral Material Areas: There are approximately 56,000 acres of mineral material areas within ACECs, SRMAs, and Areas Managed for Recreation Emphasis, mostly within the Piute Valley and Sacramento Mountains ecoregion subarea. This is approximately 58% of the defined mineral material areas within the LUPA Decision Area.

There are existing stipulations and restrictions to access within ACECs, SRMAs, and Areas Managed for Recreation Emphasis. The potential access restrictions would be minor relative to the mineral material areas within the LUPA Decision Area. Existing authorized mineral material area operations would be allowable within conservation areas and unpatented mining claims would retain valid existing rights. Existing operations and their identified expansion areas would be excluded from proposed conservation designations. Additionally, established access routes to existing operations would be allowable in conservation area designations.

IV.15.3.1.3 Impacts of Transmission Outside the DRECP Area

Impact MR-1: Plan components would reduce or improve access to and development of known and future mineral resources.

A transmission tower has a relatively small footprint and towers are widely spaced, so very little surface area is occupied at any one location. Even if towers are located in an area with mineral resources, there would be minimal impact. Subsurface mining would not be affected by the presence of a tower on the land surface. Surface mining could be affected to the extent that mining around a tower base could leave a pillar of the mineral resource undisturbed beneath the tower itself, but this would not cause substantial access restrictions to resources. Depending on the value of the mineral, the transmission line could be rerouted around the area.

IV.15.3.2 Preferred Alternative

This section addresses two components of effects of the Proposed LUPA—the streamlined development of renewable energy and transmission under the LUPA and the impacts of the amended land use plans themselves.

IV.15.3.2.1 Impacts of Renewable Energy and Transmission Development - Preferred Alternative

Impact MR-1: Plan components would reduce or improve access to and development of known and future mineral resources.

Potential impacts on mineral resources resulting from renewable energy and transmission facility development within DFAs under the Preferred Alternative in the LUPA Decision Area are summarized below and presented in Table IV.15-3.

Table IV.15-3
Potential Acres of Mineral Resource Impacts by Technology Type – Preferred Alternative

Mineral Resources	Mineral Resources (BLM acres)	Potential Mineral Resources Impacts by Technology Type (BLM acres)			
		Solar	*Wind*	*Geothermal*	*Transmission*
Geothermal resources	104,000	5,000	0	4,000	3,000
High potential mineral areas	816,000	2,000	50	200	1,000
High priority mineral & energy locations	76,000	2,000	0	0	0
Rare earth element areas	40,000	0	0	0	0
Locatable mineral areas	301,000	500	100	0	100
Leasable mineral areas	70,000	0	0	0	0
Mineral material areas	92,000	1,000	100	200	300

Note: The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore, the subtotals may not sum to the total in the table.

Potential impacts on mineral resources under the Preferred Alternative are listed below and described in more detail in Section IV.15.3.1, No Action Alternative.

Geothermal: There would be potential access restrictions to approximately 12,000 acres of geothermal resources from development of solar and transmission facilities within the LUPA Decision Area, primarily within the Imperial Borrego Valley ecoregion subarea. There would be approximately 4,000 acres within the LUPA Decision Area available for

geothermal resource development, reducing impacts to 8% of the defined geothermal resources within the LUPA Decision Area. The potential access restrictions would be minimal relative to the geothermal resources available.

High Potential Mineral Areas: There would be potential access restrictions to approximately 3,250 acres of high potential mineral areas from development of solar, wind, geothermal, and transmission facilities within the LUPA Decision Area. This is approximately 0.4% of the defined high potential mineral areas. The potential access restrictions would be minimal relative to the high potential mineral areas within the LUPA Decision Area.

High Priority Mineral and Energy Locations: There would be no potential access restrictions to high priority mineral and energy locations from development of solar, wind, geothermal, or transmission facilities within the LUPA Decision Area. Conservation and Management Actions (CMAs) for minerals state that existing operations would be designated as an allowable use.

Rare Earth Element Areas: There would be no potential access restrictions to rare earth element areas from development of solar, wind, geothermal, or transmission facilities within the LUPA Decision Area.

Locatable Mineral Areas: There would be potential access restrictions to approximately 700 acres of locatable mineral areas from development of solar, wind, and transmission facilities within the LUPA Decision Area. This is approximately 0.2% of the defined locatable mineral areas. The potential access restrictions would be minimal relative to the locatable mineral areas within the LUPA Decision Area.

Leasable Mineral Areas: There would be no potential access restrictions to leasable mineral areas from development of solar, wind, geothermal, or transmission facilities within the LUPA Decision Area.

Mineral Material Areas: There would be potential access restrictions to approximately 1,600 acres, primarily within the Cadiz Valley and Chocolate Mountains ecoregion subarea, of mineral material areas from development of solar, geothermal, and transmission facilities within the LUPA Decision Area. This is approximately 1.7% of the defined mineral material areas. The potential access restrictions would be minimal relative to the mineral material areas within the LUPA Decision Area.

Impacts on Variance Process Lands

Variance Process Lands represent the BLM Solar PEIS Variance Lands as screened for the Proposed LUPA based on BLM screening criteria. Development of renewable energy on

Variance Process Lands would not require a land use plan amendment; the environmental review process would be somewhat simpler than if the location were left undesignated. However, all solar, wind, and geothermal energy development applications would have to follow a variance process before BLM would determine whether to continue with processing them (see Volume II, Section II.3.3.3.2 for details of the variance process).

Under the Preferred Alternative, there are 40,000 acres of Variance Process Lands in the LUPA Decision Area. These lands are found in the following areas:

- High Potential Mineral Areas: Approximately 15,000 acres, primarily within the Providence and Bullion Mountains ecoregion subarea.
- High Priority Mineral and Energy Locations: Approximately 10,000 acres, primarily within the Providence and Bullion Mountains ecoregion subarea.
- Leasable Minerals: Approximately 15,000 acres, all within the Providence and Bullion Mountains ecoregion subarea.
- Mineral Materials: Approximately 600 acres, primarily within the Piute Valley and Sacramento Mountains ecoregion subarea.

Development within Variance Process Lands could result in access restrictions to these mineral material resources.

Conservation and Management Actions

The conservation strategy for the Preferred Alternative (presented in Volume II, Section II.3.4) defines specific actions that would reduce the impacts of this alternative. The conservation strategy includes specific CMAs for the Preferred Alternative.

All LUPA-wide and Ecological and Cultural Conservation Area CMAs also apply to the National Conservation Lands. The CMAs listed below apply to all action alternatives, including the Preferred Alternative.

For identified mineral lands and existing mining and energy development (locatable, salable, solid leasable and geothermal minerals) with currently approved Plans of Operations, Notices, Mine and Reclamation Plans or Plans of Development (43 CFR 3200; 3500; 3600; and 3802/09), mineral resources have been identified as follows in proposed DFAs and conservation designations:

<u>LUPA-MIN-1: High Potential Mineral Areas (Identified in CA GEM Data)</u>

- These areas have been identified as mineral lands having existing and/or historic mining activity and a reasonable probability of future mineral resource

development. These identified areas will be designated as mineral land polygons on DRECP BLM LUPA maps, and recognized as probable future development areas for planning purposes and allowable use areas.

- If an activity is proposed in a High Potential Mineral Area, that area's mineral resource value should be analyzed and the mineral resource value should be considered in the NEPA analysis.

LUPA-MIN-2: Existing Mineral and Energy Operations

- Existing authorized mineral/energy operations, including existing authorizations, modifications, extensions, and amendments and their required terms and conditions are designated as an allowable use within all BLM lands in the LUPA Decision Area, and unpatented mining claims subject to valid existing rights. Amendments and expansions not authorized prior to the completion of the DRECP LUPA Record of Decision (ROD) will be subject to applicable CMAs, including disturbance caps within Ecological and Cultural Conservation Areas, subject to valid existing rights.

LUPA-MIN-3: Existing High Priority Mineral/Energy Operations Exclusion Areas

- Existing high priority operation footprints and their identified expansion areas will be excluded from proposed renewable energy and conservation CMAs.
- High priority operation exclusions are referenced by name with their respective footprint (acreage) below:
    - Molycorp REE (General Legal Description: 35° 26'N; 115° 29'W) – 10,490.9 surface acres. Also contains radioactive deposits.
    - Briggs Au, Etna (General Legal Description: 35° 56'N; 117° 11'W) – 3,216.9 surface acres.
    - Cadiz Evaporites (General Legal Description: 34° 17'N; 115° 23'W) – 2,591.5 surface acres.
    - Searles Dry Lake (Evaporate) Operation (General Legal Description: 35° 43'N; 117° 19'W) – 72,000 surface acres.
    - Bristol Dry Lake (Evaporate) Operation (General Legal Description: 34° 29'N; 115° 43'W) – 3,500 surface acres.
    - Mesquite Gold Mine (General Legal Description: 33° 04'N; 114° 59'W) – 4,500 surface acres.
    - Hector Mine (Hectorite Clay; General Legal Description: 34° 45'N; 116° 25'W) – 1,500 surface acres.

- Castle Mountain/Viceroy Mine (Gold; General Legal Description: 35° 17'N; 115° 3'W) – 5,000 surface acres

LUPA-MIN-4: Access to Existing Operations

- Established designated, approved, or authorized access routes to the aforementioned existing authorized operations and areas will be designated as allowable uses.
- Access routes to Plans of Operation and Notices approved under 43 CFR 3809 will be granted subject to valid existing rights listed in 43 CFR 3809.100.

LUPA-MIN-5: Areas Located Outside Identified Mineral Areas

- Areas which could not be characterized due to insufficient data and mineral potential may fluctuate dependent on market economy, extraction technology, and other geologic information requiring periodic updating. Authorizations are subject to the governing laws and regulations and LUPA requirements.

Conservation and Management Actions in NLCS

NLCS-MIN-1: High Potential Mineral Areas

- In National Conservation Lands and ACECs, determine if reasonable alternatives exist outside the National Conservation Lands and ACEC areas prior to proposing mineral resource development within one of these areas.
- In National Conservation Lands, subject to valid existing rights, if mineral resource development is proposed on a parcel of public land administered by BLM for conservation purposes and designated as part of the NLCS within the California Desert Conservation Area (CDCA), pursuant to Omnibus Public Land Management Act of 2009 Section 2002(b)(2)(D):
  - Identify, analyze, and consider the resources and values for which that parcel of public land is administered for conservation purposes.
  - Determine whether development of mineral resources is compatible with the BLM's administration of that parcel of public land for conservation purposes. If development is incompatible, the mineral resource would not be developed, subject to valid existing rights.
  - Approve any operation for which valid existing rights have been determined, subject to the applicable CMAs in the DRECP BLM LUPA.
- In National Conservation Lands, to protect the values for which a National Conservation Land unit was designated, and avoid, minimize, and mitigate impacts

on those values, all Plans of Operation will meet the performance standards in 43 CFR 3809.420, specifically 43 CFR 3809.420(a)(3) - Land-Use Plans; and 43 CFR 3809.420(b)(7) - Fisheries, Wildlife and Plant Habitat, and will be subject to the regulations found at 43 CFR 3809.100 and 43 CFR 3809.101.

NLCS-MIN-2: For the purposes of locatable minerals, National Conservation Lands would be treated as "controlled" or "limited" use areas in the CDCA, requiring a Plan of Operations for greater than casual use under 43 CFR 3809.11.

NLCS-MIN-3: National Conservation Lands would be available for saleable mineral development, and would require mitigation/compensation that would result in a net benefit for National Conservation Lands values.

NLCS-MIN-4: National Conservation Lands would be available for leasing with a No Surface Occupancy stipulation.

NLCS-MIN-5: Geothermal and other leasing must protect groundwater quality and quantity.

NLCS – National Scenic and Historic Trails

NLCS-NSHT-8: For the purposes of locatable minerals, National Trail Management Corridors would be treated as "controlled" or "limited" use areas in the CDCA and would require a Plan of Operations for greater than casual use under 43 CFR 3809.11.

NLCS-NSHT-9: National Scenic and Historic Trail (NSHT) Management Corridors would be available for saleable mineral development if it does not substantially interfere with the nature and purpose of NSHT, and would require mitigation/compensation that would result in a net benefit to NSHT values.

NLCS-NSHT-10: NSHT Management Corridors would be available for leasing with a No Surface Occupancy stipulation. Surface coal mining would not be allowed within the NSHT Management Corridors.

Conservation and Management Actions in Areas of Critical Environmental Concern

ACEC-MIN-1: High Potential Mineral Areas – In National Conservation Lands and ACECs, determine if reasonable alternatives exist outside the National Conservation Lands/ACEC areas prior to proposing mineral resource development within one of these areas.

The following CMA applies to the Preferred Alternative for lands with wilderness characteristics:

LUPA-WC-4: Includes the following related to minerals – Manage the areas identified in Figure II.3-5 to protect wilderness characteristics, subject to the following CMAs.

- Include a No Surface Occupancy stipulation for any leasable minerals with no exceptions, waivers, or modifications.
- Close areas to mineral material sales.
- Recommend withdrawal from mineral entry.

IV.15.3.2.2 Impacts of Ecological and Cultural Conservation and Recreation Designations - Preferred Alternative

Potential impacts on mineral resources resulting from BLM Ecological and Cultural conservation designations and Recreation Designations under the Preferred Alternative are summarized in Table IV.15-4.

Table IV.15-4
Estimated Acres of Mineral Resources in BLM Land Designations – Preferred Alternative

Mineral Resources	Mineral Resources in LUPA Decision Area (acres)	Mineral Resources in BLM Land Designations (BLM acres)						
		SRMA[1] *(acres)*	*NLCS (acres)*	*ACEC*[2] *(acres)*	*Wildlife Allocation (acres)*	*Managed LWC (acres)*	*Trail Management Corridors (acres/miles)*	
Geothermal resources	127,000	27,000	40,000	15,000	0	0	0	1
High potential mineral areas	992,000	77,000	306,000	223,000	0	33,000	5,000	4
High priority mineral & energy locations	79,000	6,000	1,000	11,000	0	0	0	0
Rare earth element areas	60,000	0	11,000	23,000	0	0	0	0
Locatable mineral areas	306,000	15,000	207,000	41,000	0	19,000	0	0
Leasable mineral areas	71,000	0	6,000	32,000	0	10,000	500	0

Table IV.15-4
Estimated Acres of Mineral Resources in BLM Land Designations – Preferred Alternative

Mineral Resources	Mineral Resources in LUPA Decision Area (acres)	Mineral Resources in BLM Land Designations (BLM acres)						
		SRMA[1] *(acres)*	*NLCS (acres)*	*ACEC*[2] *(acres)*	*Wildlife Allocation (acres)*	*Managed LWC (acres)*	*Trail Management Corridors (acres/miles)*	
Mineral material areas	97,000	21,000	39,000	7,000	0	2,000	4,000	1

[1] Excludes NLCS and ACEC lands
[2] Excludes NLCS lands
LWC – Lands with wilderness characteristics
Note: There is overlap between some, but not all, BLM land designations, such as overlap of ACECs and NSHT management corridors or managed LWCs. This overlap may result in the appearance of greater acres of overlap between mineral resources and BLM land designations than actually exists.
The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore, the subtotals may not sum to the total in the table.

CMAs allowing mineral resource use with restrictions and stipulations would reduce adverse impacts on mineral resources under the Preferred Alternative. Existing mining claims and mineral resource related access would still be allowed, further reducing impacts.

Geothermal: There may be potential access restrictions to approximately 82,000 acres, primarily within the Imperial Borrego Valley ecoregion subarea, of geothermal resources from existing and proposed BLM land designations. This is approximately 64% of the defined geothermal resources. CMAs for mineral resources and access to valid existing mining rights would reduce impacts.

High Potential Mineral Areas: There may be potential access restrictions to approximately 644,000 acres of existing high potential mineral areas and proposed BLM land designations and lands managed for wilderness characteristics. This is approximately 65% of the defined high potential mineral areas. CMAs for high potential mineral areas would reduce impacts, as would CMAs for mineral area access and valid existing rights.

High Priority Mineral and Energy Locations: There may be approximately 18,000 acres of existing high priority mineral and energy locations within and proposed BLM land designations; however, per the CMAs for mineral resources, these existing operations would be designated as an allowable use. Therefore, there would be no potential access restrictions to the high priority mineral and energy locations in the LUPA Decision Area.

However, access to any currently unauthorized expansion of these high priority mineral and energy locations could be restricted.

Rare Earth Element Areas: There may be potential access restrictions to approximately 34,000 acres of rare earth element areas from existing and proposed BLM land designations. This is approximately 58% of the defined rare earth element areas. CMAs for rare earth element areas state that these existing operations would be designated as an allowable use. CMAs for mineral resource access and valid existing rights would further reduce potential impacts.

Locatable Mineral Areas: There may be potential access restrictions to approximately 282,000 acres of locatable mineral areas from existing and proposed BLM land designations and lands managed for wilderness characteristics. This is approximately 92% of the defined locatable mineral areas within the LUPA Decision Area. There are approximately 2,000 acres of ACECs closed to locatable mineral extraction; the remaining acres of ACECs would be open with stipulations and restrictions. CMAs for mineral resource access and valid existing rights would reduce potential impacts.

Leasable Mineral Areas: There may be potential access restrictions to approximately 48,000 acres of leasable mineral areas from existing and proposed BLM land designations and lands managed for wilderness characteristics. This is approximately 68% of the defined leasable mineral areas within the LUPA Decision Area. CMAs for mineral resource access and valid existing rights would reduce potential impacts.

Mineral Material Areas: There may be potential access restrictions to approximately 69,000 acres of mineral material areas from existing proposed BLM land designations. This is approximately 71% of the defined mineral material areas. There are approximately 100 acres of ACECs closed to mineral material extraction; the remaining acres of ACECs would be open with stipulations and restrictions. CMAs for mineral material resources access and valid existing rights would reduce impacts.

IV.15.3.2.3 Impacts of Transmission Outside the DRECP Area

The impacts of transmission outside the DRECP area on mineral resources would be the same under all alternatives. These impacts are as described for the No Action Alternative in Section IV.15.3.1.3.

IV.15.3.2.4 Comparison of the Preferred Alternative With No Action Alternative

This section summarizes the comparison of the Preferred Alternative with the No Action Alternative (Table IV.15-5).

Table IV.15-5
No Action Alternative Available Development Areas Compared With Preferred Alternative DFAs

Mineral Resource	No Action Alternative (acres)	Preferred Alternative (acres)	Comparison
Geothermal	4,100	12,000	The No Action Alternative would result in 7,900 fewer acres of renewable development within geothermal resource areas than the Preferred Alternative. There are no acres of geothermal development within available development areas under the No Action Alternative; the Preferred Alternative would have 4,000 acres available for geothermal development within DFAs.
High potential mineral areas	6,130	3,250	The No Action Alternative would result in 2,880 more acres of renewable development within high potential mineral areas than the Preferred Alternative.
High priority mineral & energy locations	340	2,000	While areas designated for renewable energy development overlap, the existing high priority mineral and energy locations would be an allowable use under the No Action Alternative.
Rare earth element areas	700	0	The No Action Alternative would result in 700 more acres of renewable development within rare earth element areas than the Preferred Alternative.
Locatable mineral areas	4,420	700	The No Action Alternative would result in 3,720 more acres of renewable development within locatable mineral areas than the Preferred Alternative.
Leasable mineral areas	0	0	The No Action Alternative and Preferred Alternative would be the same.
Mineral material areas	1,560	1,600	The No Action Alternative would result in 40 fewer acres of renewable development within mineral material areas than the Preferred Alternative.

Note: The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore, the subtotals may not sum to the total in the table.

A comparison between the No Action Alternative and Preferred Alternative within existing ACECs and SRMAs, and conservation designations (existing and proposed ACECs and SRMAs) for BLM-managed lands is presented in Table IV.15-6.

Table IV.15-6
No Action Alternative (Existing ACECs, SRMAs, and Lands Managed for Recreation Emphasis) Compared With Preferred Alternative (BLM Land Designations and Lands Managed for Wilderness Characteristics)

Mineral Resource	No Action Alternative (acres)	Preferred Alternative (acres)	Comparison
Geothermal	57,000	82,000	The No Action Alternative would have 25,000 fewer acres of BLM Land Designations within geothermal areas than the Preferred Alternative.
High potential mineral areas	427,000	644,000	The No Action Alternative would have 217,000 fewer acres of BLM Land Designations and lands managed for wilderness characteristics within high potential mineral areas than the Preferred Alternative.
High priority mineral & energy locations	0	18,000	While BLM Land Designations overlap them, the existing high priority mineral and energy locations would be an allowable use under both the No Action and Preferred Alternative.
Rare earth element areas	32,000	34,000	The No Action Alternative would have 2,000 fewer acres of BLM Land Designations within rare earth element areas than the Preferred Alternative.
Locatable mineral areas *ACEC acres closed to extraction*	111,000	282,000 *2,000*	The No Action Alternative would have 171,000 fewer acres of BLM Land Designations and lands managed for wilderness characteristics within locatable mineral areas than the Preferred Alternative.
Leasable mineral areas	0	48,000	The No Action Alternative would have 48,000 fewer acres of BLM designations and lands managed for wilderness characteristics within leasable mineral areas than the Preferred Alternative.
Mineral material areas	56,000	73,000	The No Action Alternative would have 17,000 fewer acres of BLM Land Designations and lands managed for wilderness characteristics within mineral material areas than the Preferred Alternative.
ACEC acres closed to extraction		*100*	

Note: The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore, the subtotals may not sum to the total in the table.

The Preferred Alternative includes proposed NLCS designations as well as designations of NSHT Management Corridors and lands with wilderness characteristics, increasing the number of acres under conservation and protection as compared with the No Action Alternative.

IV.15.3.3 Alternative 1

This section addresses two components of effects of the Proposed LUPA—the streamlined development of renewable energy and transmission under the LUPA and the impacts of the amended land use plans themselves.

IV.15.3.3.1 Impacts of Renewable Energy and Transmission Development – Alternative 1

Impact MR-1: Plan components would reduce or improve access to and development of known and future mineral resources.

Potential impacts on mineral resources resulting from renewable energy and transmission facility development within DFAs under Alternative 1 are summarized in Table IV.15-7.

Table IV.15-7
Potential Acres of Mineral Resource Impacts by Technology Type – Alternative 1

Mineral Resource	Mineral Resources (BLM acres)	Potential Mineral Resource Impacts by Technology Type (BLM acres)			
		Solar	*Wind*	*Geothermal*	*Transmission*
Geothermal resources	104,000	5,000	0	3,000	5,000
High potential mineral areas	816,000	1,000	0	0	1,000
High priority mineral & energy locations	76,000	0	0	0	50
Rare earth element areas	40,000	0	0	0	0
Locatable mineral areas	301,000	200	0	0	100
Leasable mineral areas	70,000	0	0	0	0
Mineral material areas	92,000	200	0	40	400

Note: The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore, the subtotals may not sum to the total in the table.

Potential impacts on mineral resources under Alternative 1 are listed below and described in more detail in Section IV.15.3.1, No Action Alternative.

Geothermal: There would be potential access restrictions to approximately 10,000 acres (8%), primarily within the Imperial Borrego Valley ecoregion subarea, of geothermal

resources from development of solar and transmission facilities within the LUPA Decision Area. There would be approximately 3,000 acres available for geothermal resource development. The potential access restrictions would be minimal relative to the geothermal resources available within the LUPA Decision Area.

High Potential Mineral Areas: There would be potential access restrictions to approximately 2,000 acres (0.2%) of high potential mineral areas from development of solar and transmission facilities within the LUPA Decision Area. The potential access restrictions would be very small relative to the high potential mineral areas within the LUPA Decision Area.

High Priority Mineral and Energy Locations: There would be approximately 50 acres of high priority mineral and energy locations within DFAs, all within potential transmission corridors; however, these existing operations would be designated as an allowable use. Therefore, there would be no potential access restrictions to the high priority mineral and energy locations within the LUPA Decision Area under this alternative.

Rare Earth Element Areas: There would be no potential access restrictions to rare earth element areas from development of solar, wind, geothermal, or transmission facilities within the LUPA Decision Area under this alternative.

Locatable Mineral Areas: There would be potential access restrictions to approximately 300 acres (0.1%) of locatable mineral areas from development of solar and transmission facilities within the LUPA Decision Area. The potential access restrictions would be minimal relative to the locatable mineral areas within the LUPA Decision Area.

Leasable Mineral Areas: There would be no potential access restrictions to leasable mineral areas from development of solar, wind, geothermal, or transmission facilities within the LUPA Decision Area under this alternative.

Mineral Material Areas: There would be potential access restrictions to approximately 600 acres (0.6%) of mineral material areas from development of solar, geothermal, and transmission facilities within BLM LUPA lands. The potential access restrictions would be very small relative to the mineral material areas within the LUPA Decision Area.

Impacts on Variance Process Lands

Variance Process Lands represent the BLM Solar PEIS Variance Lands as screened for the Proposed LUPA based on BLM screening criteria. Development of renewable energy on Variance Process Lands would not require a LUPA; the environmental review process would be somewhat simpler than if the location were left undesignated. However, all solar, wind, and geothermal energy development applications would have to follow a variance

process before BLM would determine whether to continue with processing them (see Volume II, Section II.3.3.3.2 for details of the variance process).

Under Alternative 1, there are 35,000 acres of Variance Process Lands in the LUPA Decision Area. These lands are found in the following areas:

- East of Highway 395, north of Independence in Inyo County
- South of Sandy Valley along the California–Nevada border
- West of Needles
- Near State Route 62, west of Parker, Arizona, near the California–Arizona border
- North of Blythe, immediately south of the Big Maria Mountains Wilderness
- South of State Route 98, east of Imperial Valley, along the California–Mexico border
- Near Hidden Hills
- South of Historic Route 66, east of Marine Corps Air Ground Combat Center (MCAGCC) Twentynine Palms, and both east and west of the City of Twentynine Palms
- Near the Big Maria Mountains Wilderness

Under Alternative 1, development designation of the Variance Process Lands could result in access restrictions to mineral resources as follows:

- Geothermal Resources: Approximately 2,000 acres within the Cadiz Valley and Chocolate Mountains ecoregion subarea.
- High Potential Mineral Areas: Approximately 4,000 acres, primarily within the Imperial Borrego Valley ecoregion subarea.
- High Priority Mineral and Energy Locations: Approximately 300 acres, within the Providence and Bullion Mountains ecoregion subarea.
- Leasable Minerals: Approximately 500 acres within the Providence and Bullion Mountains ecoregion subarea.
- Mineral Materials: Approximately 3,000 acres, primarily within the Imperial Borrego Valley ecoregion subarea.

Conservation and Management Actions

The conservation strategy for Alternative 1 (presented in Volume II, Section II.4.4) defines specific actions that would reduce the impacts of this alternative. All LUPA-wide and Ecological and Cultural Conservation Area CMAs also apply to the National Conservation Lands.

CMAs under Alternative 1 for NLCS lands would be the same as the Preferred Alternative for mineral resources, except for the following:

Conservation and Management Actions in NLCS

- **Leasable Minerals:**
  - National Conservation Lands would be available for geothermal leasing with a No Surface Occupancy stipulation.
  - National Conservation Lands would be unsuitable for all other leasing.

NLCS – National Scenic and Historic Trails

CMAs under Alternative 1 for NSHTs would be the same as for the Preferred Alternative for mineral resources, except for the following:

- **Saleable Minerals:** NSHT Management Corridors would be unavailable for saleable mineral development.

IV.15.3.3.2 Impacts of Ecological and Cultural Conservation and Recreation Designations – Alternative 1

Impact MR-1: Plan components would reduce or improve access to and development of known and future mineral resources.

Potential impacts on mineral resources resulting from conservation designation lands under Alternative 1 are summarized in Table IV.15-8.

Table IV.15-8
Estimated Acres of Mineral Resources in LUPA Land Designations – Alternative 1

Mineral Resources	Mineral Resources in LUPA Lands (acres)	Mineral Resources in BLM Land Designations						
		SRMA (acres)	*NLCS (acres)*	*ACEC (acres)*	*Wildlife Allocation (acres)*	*Managed LWCs (acres)*	*Trail Management Corridors (acres/miles)*	
Geothermal resources	127,000	24,000	14,500	44,000	0	0	0	0
High potential mineral areas	992,000	41,000	121,000	261,000	112,000	0	3,000	5.9
High priority mineral & energy locations	79,000	8,300	0	11,000	1,300	0	0	0

Table IV.15-8
Estimated Acres of Mineral Resources in LUPA Land Designations – Alternative 1

Mineral Resources	Mineral Resources in LUPA Lands (acres)	Mineral Resources in BLM Land Designations						
		SRMA (acres)	*NLCS (acres)*	*ACEC (acres)*	*Wildlife Allocation (acres)*	*Managed LWCs (acres)*	*Trail Management Corridors (acres/miles)*	
Rare earth element areas	60,000	20	3,000	30,000	1,000	0	0	0
Locatable mineral areas	306,000	17,000	102,000	93,000	38,000	0	0	0
Leasable mineral areas	71,000	700	0	0	48,400	0	0	0
Mineral material areas	97,000	20,000	14,000	27,500	1,000	0	60	0

LWC – Lands with wilderness characteristics

Note: There is overlap between some, but not all, BLM land designations, such as overlap of ACECs and NSHT management corridors or managed LWCs. This overlap may result in the appearance of greater acres of overlap between mineral resources and BLM land designations than actually exists.

The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore, the subtotals may not sum to the total in the table.

Management actions for Alternative 1 would make NLCS lands available for locatable mineral areas, mineral material areas, and leasable mineral areas with No Surface Occupancy. Availability and access to mineral resources within NLCS lands would reduce impacts. Within conservation designations on BLM-managed lands, exploration and access could continue following the area-specific management plans, including disturbance caps. Unpatented mining claims would continue to be subject to valid existing rights.

Geothermal: There would be potential access restrictions to approximately 82,500 acres (65%), primarily within the Imperial Borrego Valley ecoregion subarea, of geothermal resources from existing and proposed BLM Land Designations. The potential restriction of access could be moderate relative to the geothermal resources within the LUPA Decision Area. Existing authorized mineral and energy operations, including existing authorizations, modifications, extensions, and amendments and their required terms and conditions would be designated as an allowable use within all BLM lands in the LUPA Decision Area, and unpatented mining claims would be subject to valid existing rights. CMAs for mineral resources would further reduce potential impacts.

High Potential Mineral Areas: There would be potential access restrictions to approximately 538,000 acres (54%) of high potential mineral areas from existing and proposed BLM Land Designations throughout all ecoregion subareas, except in the Owens River Valley. Existing authorized mineral and energy operations, including existing authorizations, modifications, extensions, and amendments and their required terms and conditions would be designated as an allowable use within all BLM lands in the LUPA Decision Area, and unpatented mining claims would be subject to valid existing rights. CMAs for high potential mineral areas would further reduce impacts.

High Priority Mineral and Energy Locations: There would be approximately 20,600 acres (26%), primarily within the Panamint Death Valley ecoregion subarea, of high priority mineral and energy locations within existing and proposed BLM Land Designations. Because these existing operations would be designated as an allowable use, there would be no potential restriction of access to the high priority mineral and energy locations within the LUPA Decision Area.

Rare Earth Element Areas: There would be potential access restrictions to approximately 34,000 acres, primarily within the Kingston and Funeral Mountains and Pinto Lucerne Valley and Eastern Slopes ecoregion subareas, of rare earth element areas from existing and proposed BLM Land Designations. This is approximately 57% of the defined rare earth element areas within the LUPA Decision Area.

Per mineral CMAs, existing authorized mineral and energy operations, including existing authorizations, modifications, extensions, and amendments and their required terms and conditions are designated as an allowable use within all BLM lands in the LUPA Decision Area, and unpatented mining claims would be subject to valid existing rights. Amendments and expansions not authorized prior to the completion of the DRECP LUPA ROD would be subject to applicable CMAs, including disturbance caps within Ecological and Cultural Conservation Areas, subject to valid existing rights. CMAs for existing operations would further reduce impacts. Overall, the potential restriction of access would likely be minor relative to the rare earth element areas within the LUPA Decision Area.

Locatable Mineral Areas: There would be potential restriction of access to approximately 250,000 acres of locatable mineral areas from existing and proposed BLM Land Designations throughout all ecoregion subareas, except in the Owens River Valley, and the CDCA Area outside the DRECP boundary. This is approximately 82% of the defined locatable mineral areas within the LUPA Decision Area. There would be 8,000 acres of ACECs closed to locatable mineral extraction; the remaining acres of ACECs would be open with stipulations and restrictions. CMAs for mineral resources state that established designated, approved, or authorized access routes to existing authorized operations and areas will be designated as allowable uses and access routes to Plans of Operation and

Notices approved under 43 CFR 3809 will be granted subject to valid existing rights listed in 43 CFR 3809.100. These CMAs along with the additional CMAs for mineral resources would further reduce impacts.

Leasable Mineral Areas: There would be potential restriction of access to approximately 49,000 acres, primarily within the Cadiz Valley and Chocolate Mountains ecoregion subarea, of leasable mineral areas from existing and proposed BLM Land Designations. This is approximately 69% of the defined leasable mineral areas within the LUPA Decision Area. CMAs mentioned above for locatable minerals along with the additional CMAs for mineral resources would reduce impacts.

Mineral Material Areas: There would be potential restriction of access to approximately 62,500 acres of mineral material from existing and proposed BLM Land Designations. This is approximately 64% of the defined mineral material areas within the LUPA Decision Area. There would be 1,000 acres of ACECs closed to mineral material extraction; the remaining acres of ACECs would be open with stipulations and restrictions. CMAs mentioned above for locatable minerals along with the additional CMAs for mineral resources would reduce impacts.

IV.15.3.3.3 Impacts of Transmission Outside the DRECP Area

The impacts of transmission outside the DRECP area on mineral resources would be the same under all alternatives. These impacts are as described for the No Action Alternative in Section IV.15.3.1.3.

IV.15.3.3.4 Comparison of Alternative 1 With Preferred Alternative

This section summarizes the comparison of Alternative 1 with the Preferred Alternative (Table IV.15-9).

Table IV.15-9
Alternative 1 Compared With the Preferred Alternative on DFAs

Mineral Resource	Alternative 1 (BLM acres)	Preferred Alternative (BLM acres)	Comparison
Geothermal	13,000	12,000	Alternative 1 would result in 1,000 more acres of DFAs within geothermal resource areas than the Preferred Alternative. The Preferred Alternative would have 4,000 acres available for geothermal development within DFAs, 1,000 more acres than Alternative 1, which would have 3,000 geothermal acres within DFAs.

Table IV.15-9
Alternative 1 Compared With the Preferred Alternative on DFAs

Mineral Resource	Alternative 1 (BLM acres)	Preferred Alternative (BLM acres)	Comparison
High potential mineral areas	2,000	3,250	Alternative 1 would result in 1,250 fewer acres of DFAs within high potential mineral areas than the Preferred Alternative.
High priority mineral & energy locations	50	2,000	While proposed DFAs would overlap them, the existing high priority mineral and energy locations would be an allowable use under both alternatives.
Rare earth element areas	0	0	Alternative 1 would be the same as the Preferred Alternative.
Locatable mineral areas	300	700	Alternative 1 would result in 400 fewer acres of DFAs within locatable mineral areas than the Preferred Alternative.
Leasable mineral areas	0	0	Alternative 1 and Preferred Alternative would be the same.
Mineral material areas	640	1,600	Alternative 1 would result in 960 fewer acres of DFAs within mineral material areas than the Preferred Alternative.

Note: The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore, the subtotals may not sum to the total in the table.

A comparison between Alternative 1 and the Preferred Alternative within BLM Land Designations is summarized in Table IV.15-10.

Table IV.15-10
Alternative 1 Compared With Preferred Alternative on BLM Land Designations

Mineral Resource	Alternative 1 (BLM acres)	Preferred Alternative (BLM acres)	Comparison
Geothermal	82,500	82,000	Alternative 1 would have 500 more acres of BLM Land Designations within geothermal areas than the Preferred Alternative.

Table IV.15-10
Alternative 1 Compared With Preferred Alternative on BLM Land Designations

Mineral Resource	Alternative 1 (BLM acres)	Preferred Alternative (BLM acres)	Comparison
High potential mineral areas	538,000	644,000	Alternative 1 would have 106,000 fewer acres of BLM Land Designations within high potential mineral areas than the Preferred Alternative.
High priority mineral & energy locations	20,600	18,000	While BLM Land Designations overlap them, the existing high priority mineral and energy locations would be an allowable use under both alternatives.
Rare earth element areas	34,000	34,000	Alternative 1 would have the same acres of BLM Land Designations within rare earth element areas as the Preferred Alternative.
Locatable mineral areas *ACEC acres closed to extraction*	250,000 *8,000*	282,000 *2,000*	Alternative 1 would have 32,000 fewer acres of BLM Land Designations within locatable mineral areas than the Preferred Alternative.
Leasable mineral areas	49,000	48,000	Alternative 1 would have 1,000 more acres of BLM Land Designations within leasable mineral areas than the Preferred Alternative.
Mineral material areas	62,500	73,000	Alternative 1 would have 10,500 fewer acres of BLM Land Designations within mineral material areas than the Preferred Alternative.
ACEC acres closed to extraction	*1,000*	*100*	

Note: The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore, the subtotals may not sum to the total in the table.

IV.15.3.4 Alternative 2

This section addresses two components of effects of the Proposed LUPA—the streamlined development of renewable energy and transmission on BLM land under the LUPA and the impacts of the amended land use plans themselves.

IV.15.3.4.1 Impacts of Renewable Energy and Transmission Development – Alternative 2

Impact MR-1: Plan components would reduce or improve access to and development of known and future mineral resources.

Potential impacts on mineral resources resulting from renewable energy and transmission facility development within DFAs under Alternative 2 are summarized below and presented in Table IV.15-11.

Table IV.15-11
Estimated Acres of Mineral Resources Within DFAs by Technology Type – Alternative 2

Mineral Resources	Mineral Resources (BLM acres)	Potential Mineral Resources Impacts by Technology Type (BLM acres)			
		Solar	*Wind*	*Geothermal*	*Transmission*
Geothermal resources	104,000	2,000	0	3,000	4,300
High potential mineral areas	816,000	3,000	1,000	100	1,200
High priority mineral and energy locations	76,000	500	100	0	100
Rare earth element areas	40,000	0	0	0	100
Locatable mineral areas	301,000	2,000	1,000	0	600
Leasable mineral areas	70,000	0	0	0	0
Mineral material areas	92,000	500	100	200	400

Note: The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore, the subtotals may not sum to the total in the table.

In areas where DFAs overlap with mineral resource areas, potential renewable energy and transmission development within DFAs would have the following impacts. Existing mining claims and mineral resource-related access would continue to be allowed, reducing potential impacts.

Geothermal: There would be potential access restrictions to approximately 9,300 acres (7%), primarily within the Imperial Borrego Valley ecoregion subarea, of geothermal resources from development of solar, wind, and transmission facilities within the LUPA Decision Area. There would be approximately 3,000 acres available for geothermal resource development, reducing impacts of the defined geothermal resources within those lands. The potential access restrictions would be minimal relative to the geothermal resources within the LUPA Decision Area.

High Potential Mineral Areas: There would be potential access restrictions to approximately 5,300 acres of high potential mineral areas from development of solar, wind, geothermal, and transmission facilities within the LUPA Decision Area. This is approximately 0.5% of the defined high potential mineral areas within those lands. The potential access restrictions would be minimal relative to the high potential mineral areas within the LUPA Decision Area.

High Priority Mineral and Energy Locations: There would be approximately 700 acres of high priority mineral and energy locations within DFAs; however, per the CMAs for minerals, these existing operations would be designated as an allowable use. Therefore, there would be no potential access restrictions to the high priority mineral and energy locations within the LUPA Decision Area.

Rare Earth Element Areas: There would be potential access restrictions to approximately 100 acres of rare earth element areas from development of transmission facilities. This is essentially an undetectable amount relative to the overall availability of rare earth element areas within the LUPA Decision Area.

Locatable Mineral Areas: There would be potential access restrictions to approximately 3,600 acres, primarily within the Imperial Borrego Valley ecoregion subarea, of locatable mineral areas from development of solar, wind, and transmission facilities within the LUPA Decision Area. This is approximately 1% of the defined locatable mineral areas within those lands. The potential access restrictions would be minimal relative to the locatable mineral areas available within the LUPA Decision Area.

Leasable Mineral Areas: There would be no potential access restrictions to leasable mineral areas from development of solar, wind, geothermal, or transmission facilities within the LUPA Decision Area.

Mineral Material Areas: There would be potential access restrictions to approximately 1,200 acres of mineral material areas from development of solar, geothermal, and transmission facilities within the LUPA Decision Area. This is approximately 1% of the defined mineral material areas. The potential access restrictions would be minimal relative to the mineral material areas available within the LUPA Decision Area.

Impacts on Variance Process Lands

Variance Process Lands represent the BLM Solar PEIS Variance Lands as screened for the Proposed LUPA based on BLM screening criteria. Development of renewable energy on Variance Process Lands would not require a LUPA; the environmental review process would be somewhat simpler than if the location were left undesignated. However, all solar, wind, and geothermal energy development applications would have to follow a variance

process before BLM would determine whether to continue with processing them (see Volume II, Section II.3.3.3.2 for details of the variance process).

Under Alternative 2, there are 29,000 acres of Variance Process Lands in the LUPA Decision Area. These lands are found in the following areas:

- Immediately south of MCAGCC Twentynine Palms both east and west of the City of Twentynine Palms
- North of Victorville

Development or conservation designation of Variance Process Lands would potentially impact the following mineral resources:

- High Potential Mineral Areas: Approximately 4,000 acres, primarily within the Providence and Bullion Mountains ecoregion subarea.

Conservation and Management Actions

The conservation strategy for Alternative 2 (presented in Volume II, Section II.5.4) defines specific actions that would reduce the impacts of this alternative. All LUPA-wide and Ecological and Cultural Conservation Area CMAs also apply to the National Conservation Lands.

Conservation and Management Actions for Mineral Resources

CMAs under Alternative 2 for NLCS lands would be the same as the Preferred Alternative for mineral resources, except for the following:

- **Leasable Minerals:**
  - National Conservation Lands would be unsuitable for all leasing.
  - BLM would review National Conservation Land values and undertake additional planning to determine if No Surface Occupancy leasing can be permitted.
- **Locatable Minerals:**
  - For purposes of locatable minerals, National Conservation Lands would be treated as "controlled" or "limited" use areas in the CDCA, and require a plan of operations for greater than casual use (43 CFR 3809.11).
  - BLM would develop a priority list of subareas for potential withdrawal.
  - Initiate segregation of one subregion annually and complete mineral withdrawal review process (within 2-year time frame for each subregion).

- **Saleable Minerals:** Saleable mineral development would be limited to BLM parcels smaller than 2,000 acres. Mitigation and compensation must result in a net benefit to National Conservation Lands.

NLCS – National Scenic and Historic Trails

CMAs under Alternative 2 for NSHTs would be the same as for the Preferred Alternative for mineral resources, except for the following:

- **Locatable Minerals:** BLM would propose that NSHT Management Corridors be withdrawn from mineral entry. Withdrawals would be subject to valid existing rights.
- **Leasable Minerals:** NSHT Management Corridors would be unavailable for mineral leasing.
- **Saleable Minerals:** NSHT Management Corridors would be unavailable for saleable mineral development.

IV.15.3.4.2 Impacts of Ecological and Cultural Conservation and Recreation Designations – Alternative 2

Impact MR-1: Plan components would reduce or improve access to and development of known and future mineral resources.

Potential impacts on mineral resources resulting from BLM Land Designations under Alternative 2 are summarized below and presented in Table IV.15-12.

Table IV.15-12
Estimated Acres of Mineral Resources in LUPA Land Designations – Alternative 2

Mineral Resources	Mineral Resources in LUPA Lands (acres)	Mineral Resources in BLM Land Designations						
		SRMA (acres)	*NLCS (acres)*	*ACEC (acres)*	*Wildlife Allocation (acres)*	*Managed LWCs (acres)*	*Trail Management Corridors (acres/miles)*	
Geothermal resources	127,000	24,000	34,000	37,000	0	0	400	0
High potential mineral areas	992,000	28,000	511,000	106,000	200	14,000	148,300	7
High priority mineral & energy locations	79,000	8,000	26,000	9,000	0	4,000	0	0

Table IV.15-12
Estimated Acres of Mineral Resources in LUPA Land Designations – Alternative 2

Mineral Resources	Mineral Resources in LUPA Lands (acres)	Mineral Resources in BLM Land Designations						
		SRMA (acres)	*NLCS (acres)*	*ACEC (acres)*	*Wildlife Allocation (acres)*	*Managed LWCs (acres)*	*Trail Management Corridors (acres/miles)*	
Rare earth element areas	60,000	20	31,000	12,000	0	0	100	0
Locatable mineral areas	306,000	5,000	230,000	11,000	0	4,000	20,000	0
Leasable mineral areas	71,000	0	70,000	100	50	0	0	0
Mineral material areas	97,000	2,000	76,000	5,000	0	1,000	9,000	0

LWC – Lands with wilderness characteristics

Note: There is overlap between some, but not all, BLM land designations, such as overlap of ACECs and NSHT management corridors or managed LWCs. This overlap may result in the appearance of greater acres of overlap between mineral resources and conservation lands than actually exists.

The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore, the subtotals may not sum to the total in the table.

Availability and access to mineral resources within NLCS lands would reduce impacts. Within conservation designations on BLM-managed lands, exploration and access could continue following the area-specific management plans, including disturbance caps. Unpatented mining claims would continue to be subject to valid existing rights.

Geothermal: There would be potential access restrictions to approximately 95,400 acres of geothermal resources from existing and proposed BLM Land Designations. This is approximately 75% of the defined geothermal resources within the LUPA Decision Area. Existing authorized mineral and energy operations, including existing authorizations, modifications, extensions, and amendments and their required terms and conditions would be designated as an allowable use within all BLM lands in the LUPA Decision Area, and unpatented mining claims would be subject to valid existing rights. These and additional CMAs for mineral resources would further reduce potential impacts.

High Potential Mineral Areas: There would be potential access restrictions to approximately 807,500 acres of high potential mineral areas from existing and proposed BLM Land Designations. This is approximately 81% of the defined high potential mineral

areas within the LUPA Decision Area. CMAs for high potential mineral areas include recognizing these areas as probable future development areas for planning purposes and allowable use areas. In addition, if an activity is proposed in a high potential mineral area, that area's mineral resource value should be analyzed and the mineral resource value should be considered in the NEPA analysis. These and additional mineral resource CMAs would reduce potential impacts.

High Priority Mineral and Energy Locations: There would be approximately 47,000 acres of high priority mineral and energy locations from existing and proposed BLM Land Designations. Per the specific CMAs for high priority mineral and energy locations, however, these existing operations would be designated as an allowable use and there would be no potential access restrictions to the existing high priority mineral and energy locations within the LUPA Decision Area. CMAs would include modifications, extensions, and amendments to the mineral and energy locations; their required terms and conditions would be designated as an allowable use within all BLM lands in the LUPA Decision Area. Unpatented mining claims would be subject to valid existing rights. These and additional CMAs for mineral resources would further reduce potential impacts.

Rare Earth Element Areas: There would be potential access restrictions to approximately 43,000 acres of rare earth element areas from existing and proposed BLM Land Designations. This is approximately 72% of the defined rare earth element areas within the LUPA Decision Area. CMAs for existing operations would reduce impacts. Existing operations would continue to be an allowable use and unpatented mining claims would be subject to valid existing rights. These and additional CMAs for mineral resources would further reduce potential impacts.

Locatable Mineral Areas: There would be potential access restrictions to approximately 270,000 acres of locatable mineral areas from existing and proposed BLM Land Designations. This is approximately 88% of the defined locatable mineral areas within the LUPA Decision Area. There would be approximately 2,000 acres of ACECs closed to locatable mineral extraction; the remaining acres of ACECs would be open with stipulations and restrictions. CMAs for locatable mineral areas would reduce these impacts. Existing operations would continue to be an allowable use and unpatented mining claims would be subject to valid existing rights.

Leasable Mineral Areas: There would be potential access restrictions to approximately 70,000 acres of leasable mineral areas from existing and proposed BLM Land Designations. This is approximately 99% of the defined leasable mineral areas within the LUPA Decision Area. CMAs for leasable mineral areas would reduce these impacts. Existing operations would continue to be an allowable use and unpatented mining claims would be subject to valid existing rights.

Mineral Material Areas: There would be potential access restrictions to approximately 93,000 acres of mineral material areas from existing and proposed BLM Land Designations. This is approximately 96% of the defined mineral material areas within the LUPA Decision Area. There would be approximately 400 acres of ACECs closed to mineral material extraction; the remaining acres of ACECs would be open with stipulations and restrictions. Existing operations would continue to be an allowable use and unpatented mining claims would be subject to valid existing rights. CMAs for mineral material resources would reduce impacts.

IV.15.3.4.3 Impacts of Transmission Outside the DRECP Area

The impacts of transmission outside the DRECP area on mineral resources would be the same under all alternatives. These impacts are as described for the No Action Alternative in Section IV.15.3.1.5.

IV.15.3.4.4 Comparison of Alternative 2 With Preferred Alternative

This section summarizes the comparison of Alternative 2 with the Preferred Alternative (Table IV.15-13).

Table IV.15-13
Alternative 2 Compared With the Preferred Alternative on DFAs

Mineral Resource	Alternative 2 (acres)	Preferred Alternative (acres)	Comparison
Geothermal	9,300	12,000	Alternative 2 would result in 2,700 more acres of DFAs within geothermal resource areas than the Preferred Alternative. The Preferred Alternative would have 4,000 acres available for geothermal development within DFAs, 1,000 more acres than Alternative 2, which would have 3,000 geothermal acres within DFAs.
High potential mineral areas	5,300	3,250	Alternative 2 would result in 2,050 more acres of DFAs within high potential mineral areas than the Preferred Alternative.
High priority mineral & energy locations	700	2,000	While proposed DFAs would overlap them, the existing high priority mineral and energy locations would be an allowable use under both alternatives.
Rare earth element areas	100	0	Alternative 2 would result in 100 more acres of DFAs within rare earth element areas than the Preferred Alternative.

Table IV.15-13
Alternative 2 Compared With the Preferred Alternative on DFAs

Mineral Resource	Alternative 2 (acres)	Preferred Alternative (acres)	Comparison
Locatable mineral areas	3,600	700	Alternative 2 would result in 2,900 more acres of DFAs within locatable mineral areas than the Preferred Alternative.
Leasable mineral areas	0	0	Alternative 2 and Preferred Alternative would be the same.
Mineral material areas	1,200	1,600	Alternative 2 would result in 400 fewer acres of DFAs within mineral material areas than the Preferred Alternative.

Note: The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore, the subtotals may not sum to the total in the table.

A comparison between Alternative 2 and the Preferred Alternative within BLM Land Designations is summarized in Table IV.15-14.

Table IV.15-14
Alternative 2 Compared With Preferred Alternative on BLM Land Designations

Mineral Resource	Alternative 2 (BLM acres)	Preferred Alternative (BLM acres)	Comparison
Geothermal	95,400	82,000	Alternative 2 would have 13,400 more acres of BLM Land Designations within geothermal areas than the Preferred Alternative.
High potential mineral areas	807,500	644,000	Alternative 2 would have 163,500 more acres of BLM Land Designations and lands managed for wilderness characteristics within high potential mineral areas than the Preferred Alternative.
High priority mineral and energy locations	47,000	18,000	While proposed DFAs would overlap them, the existing high priority mineral and energy locations would be an allowable use under both alternatives.
Rare earth element areas	43,000	34,000	Alternative 2 would have 9,000 more acres of BLM Land Designations within rare earth element areas than the Preferred Alternative.

Table IV.15-14
Alternative 2 Compared With Preferred Alternative on BLM Land Designations

Mineral Resource	Alternative 2 (BLM acres)	Preferred Alternative (BLM acres)	Comparison
Locatable mineral areas *ACEC acres closed to extraction*	270,000 *2,000*	282,000 *2,000*	Alternative 2 would have 12,000 fewer acres of BLM Land Designations within locatable mineral areas than the Preferred Alternative.
Leasable mineral areas	70,000	48,000	Alternative 2 would have 22,000 more acres of BLM Land Designations within leasable mineral areas than the Preferred Alternative.
Mineral material areas *ACEC acres closed to extraction*	93,000 *400*	73,000 *100*	Alternative 2 would have 20,000 more acres of BLM Land Designations and lands managed for wilderness characteristics within mineral material areas than the Preferred Alternative.

Note: The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore, the subtotals may not sum to the total in the table.

IV.15.3.5 Alternative 3

This section addresses two components of effects of the Proposed LUPA—the streamlined development of renewable energy and transmission on BLM land under the LUPA and the impacts of the amended land use plans themselves.

IV.15.3.5.1 Impacts of Renewable Energy and Transmission Development – Alternative 3

Impact MR-1: Plan components would reduce or improve access to and development of known and future mineral resources.

Potential impacts on mineral resources resulting from renewable energy and transmission facility development within DFAs under Alternative 3 are summarized below and presented in Table IV.15-15.

Table IV.15-15
Estimated Acres of Mineral Resources
Within DFAs by Technology Type – Alternative 3

Mineral Resources	Mineral Resources in LUPA (BLM acres)	Potential Mineral Resource Impacts by Technology Type (BLM acres)			
		Solar	*Wind*	*Geothermal*	*Transmission*
Geothermal resources	104,000	6,300	0	4,000	4,000
High potential mineral areas	816,000	2,000	20	200	1,000
High priority mineral & energy locations	76,000	1,400	0	0	50
Rare earth element areas	40,000	0	0	0	0
Locatable mineral areas	301,000	500	20	0	100
Leasable mineral areas	70,000	0	0	0	0
Mineral material areas	92,000	1,000	20	300	400

Note: The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore, the subtotals may not sum to the total in the table.

Restrictions and stipulations within BLM Land Designations, such as some ACECs and SRMAs, would allow limited mineral resource access. CMAs allowing mineral resource use with restrictions and stipulations would reduce adverse impacts on mineral resources under Alternative 3. Existing mining claims and mineral resource-related access would continue to be allowed, further reducing impacts.

Geothermal: There would be potential access restrictions to approximately 14,300 acres of geothermal resources from development of solar and transmission facilities within the LUPA Decision Area. There would be approximately 4,000 acres available for geothermal resource development, reducing impacts to 11% of the defined geothermal resources within the LUPA Decision Area. The potential access restrictions would be minimal relative to the geothermal resources within the LUPA Decision Area.

High Potential Mineral Areas: There would be potential access restrictions to approximately 3,200 acres of high potential mineral areas from development of solar, wind, geothermal, and transmission facilities within the LUPA Decision Area. This is approximately 0.3% of the defined high potential mineral areas. The potential access restrictions would be minimal relative to the high potential mineral areas within the LUPA Decision Area.

High Priority Mineral and Energy Locations: There would be approximately 1,400 acres of high priority mineral and energy locations within DFAs; however, per the CMAs for

minerals, these existing operations would be designated as an allowable use. There would be no potential access restrictions to the high priority mineral and energy locations within the LUPA Decision Area.

Rare Earth Element Areas: There would be no potential access restrictions to rare earth element areas from development of solar, wind, geothermal, or transmission facilities within the LUPA Decision Area.

Locatable Mineral Areas: There would be potential access restrictions to approximately 600 acres of locatable mineral areas from development of solar, wind, and transmission facilities within the LUPA Decision Area. This is approximately 0.1% of the defined locatable mineral areas. The potential access restrictions would be minimal relative to the locatable mineral areas within the LUPA Decision Area.

Leasable Mineral Areas: There would be no potential access restrictions to leasable mineral areas from development of solar, wind, geothermal, or transmission facilities within the LUPA Decision Area.

Mineral Material Areas: There would be potential access restrictions to approximately 1,700 acres of mineral material areas from development of solar, geothermal, and transmission facilities within the LUPA Decision Area. This is approximately 2% of the defined mineral material areas within those lands. The potential access restrictions would be minimal relative to the mineral material areas within the LUPA Decision Area.

Impacts on Variance Process Lands

Variance Process Lands represent the BLM Solar PEIS Variance Lands as screened for the Proposed LUPA based on BLM screening criteria. Development of renewable energy on Variance Process Lands would not require a LUPA; the environmental review process would be somewhat simpler than if the location were left undesignated. However, all solar, wind, and geothermal energy development applications would have to follow a variance process before the BLM would determine whether to continue with processing them (see Volume II, Section II.3.3.3.2 for details of the variance process).

Under Alternative 3, there are 2,000 acres of Variance Process Lands in the LUPA Decision Area. These lands are found in the Lucerne Valley, both east and west of State Route 247.

Conservation and Management Actions

The conservation strategy for Alternative 3 (see Volume II, Section II.6.4) defines specific actions that would reduce the impacts of this alternative. All LUPA-wide and Ecological and Cultural Conservation Area CMAs also apply to the National Conservation Lands.

CMAs for Mineral Resources

CMAs under Alternative 3 for NLCS lands would be the same as the Preferred Alternative for mineral resources except for the following:

- **Leasable Minerals:**
  - National Conservation Lands would be unsuitable for all leasing.
  - BLM would review National Conservation Land values and undertake additional planning to determine if No Surface Occupancy leasing can be permitted.
- **Locatable Minerals:**
  - BLM would develop a priority list of subareas for potential withdrawal.
  - Initiate segregation of one subregion annually and complete mineral withdrawal review process (within 2-year timeframe for each subregion).
- **Saleable Minerals:** Development would be limited to BLM parcels less than 2,000 acres. Mitigation and compensation "must" result in net benefit to National Conservation Lands.

CMAs for NLCS – National Scenic and Historic Trails

- **Locatable Minerals:** BLM would propose NSHT Management Corridors for withdrawal from mineral entry. Withdrawals would be subject to valid existing rights.
- **Leasable Minerals:** NSHT Management Corridors would be unsuitable for all leasing.
- **Saleable Minerals:** Development in NSHT Management Corridors would be limited to local public works projects. Mitigation and compensation must result in a net benefit to NSHTs.

IV.15.3.5.2 Impacts of Ecological and Cultural Conservation and Recreation Designations – Alternative 3

Impact MR-1: Plan components would reduce or improve access to and development of known and future mineral resources.

Potential impacts on mineral resources resulting from conservation designations under Alternative 3 on BLM lands are summarized below and in Table IV.15-16.

Table IV.15-16
Estimated Acres of Mineral Resources in LUPA Land Designation – Alternative 3

Mineral Resources	Mineral Resources in LUPA Lands (acres)	Mineral Resources in BLM Land Designations						
		SRMAs (acres)	*NLCS (acres)*	*ACEC (acres)*	*Wildlife Allocation (acres)*	*Managed LWCs (acres)*	*Trail Management Corridors (acres/miles)*	
Geothermal resources	127,000	24,000	41,000	35,000	0	0	400	0
High potential mineral areas	992,000	38,000	290,000	269,000	0	16,000	127,500	6
High priority mineral & energy locations	79,000	7,000	1,000	12,000	0	4,000	0	0
Rare earth element areas	60,000	20	10,000	25,000	0	0	100	0
Locatable mineral areas	306,000	16,000	191,000	50,000	0	4,000	20,000	0
Leasable mineral areas	71,000	0	5,000	44,000	0	0	0	0
Mineral material areas	97,000	20,000	30,200	15,000	0	1,000	9,100	0

LWC – Lands with wilderness characteristics

Note: There is overlap between some, but not all, BLM land designations, such as overlap of ACECs and NSHT management corridors or managed LWCs. This overlap may result in the appearance of greater acres of overlap between mineral resources and conservation lands than actually exists.

The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore, the subtotals may not sum to the total in the table.

Availability and access to mineral resources within NLCS lands would reduce impacts. Within conservation designations on BLM-managed lands, exploration and access could continue following the area-specific management plans, including disturbance caps. Unpatented mining claims would continue to be subject to valid existing rights.

Geothermal: There would be potential access restrictions to approximately 100,400 acres of geothermal resources from existing and proposed BLM land designations. This is approximately 79% of the defined geothermal resources within the LUPA Decision Area. Existing authorized mineral and energy operations, including existing authorizations, modifications, extensions, and amendments and their required terms and conditions would

be designated as an allowable use within all BLM lands in the LUPA Decision Area, and unpatented mining claims subject to valid existing rights. These and additional CMAs for mineral resources would further reduce potential impacts.

High Potential Mineral Areas: There would be potential access restrictions to approximately 740,500 acres of high potential mineral areas from existing and proposed BLM land designations. This is approximately 75% of the defined high potential mineral areas. CMAs for high potential minerals include recognizing these areas as probable future development areas for planning purposes and allowable use areas. In addition, if an activity is proposed in a high potential mineral area, that area's mineral resource value should be analyzed and the mineral resource value should be considered in the NEPA analysis. These and additional mineral resource CMAs would reduce potential impacts.

High Priority Mineral and Energy Locations: There would be approximately 24,000 acres of high priority mineral and energy locations from existing and proposed BLM land designations. Per the CMAs for minerals, however, these existing operations would be designated as an allowable use and there would be no potential access restrictions to the high priority mineral and energy locations within the LUPA Decision Area. CMAs would include modifications, extensions, and amendments to the mineral and energy locations; their required terms and conditions would be designated as an allowable use within all BLM lands in the LUPA Decision Area. Unpatented mining claims would be subject to valid existing rights. These and additional CMAs for mineral resources would further reduce potential impacts.

Rare Earth Element Areas: There would be potential access restrictions to approximately 35,000 acres of rare earth element areas from existing and proposed BLM land designations. This is approximately 58% of the defined rare earth element areas within the LUPA Decision Area. Existing operations would continue to be an allowable use and unpatented mining claims would be subject to valid existing rights. These and additional CMAs for mineral resources would further reduce potential impacts.

Locatable Mineral Areas: There would be potential access restrictions to approximately 281,000 acres of locatable mineral areas from existing and proposed BLM land designations. This is approximately 92% of the defined locatable mineral areas within the LUPA Decision Area. There would be approximately 9,000 acres of ACECs closed to locatable mineral extraction; the remaining acres of ACECs would be open with stipulations and restrictions. CMAs for locatable mineral areas would reduce these impacts. Existing operations would continue to be an allowable use and unpatented mining claims would be subject to valid existing rights.

Leasable Mineral Areas: There would be potential access restrictions to approximately 49,000 acres of leasable mineral areas from existing and proposed BLM land designations. This is approximately 69% of the defined leasable mineral areas. CMAs for leasable mineral areas would reduce these impacts. Existing operations would continue to be an allowable use and unpatented mining claims would be subject to valid existing rights.

Mineral Material Areas: There would be potential access restrictions to approximately 75,300 acres of mineral material areas from existing and proposed BLM land designations. This is approximately 78% of the defined mineral material areas. There would be approximately 1,000 acres of ACECs closed to mineral material extraction; the remaining acres of ACECs would be open with stipulations and restrictions. Existing operations would continue to be an allowable use and unpatented mining claims would be subject to valid existing rights. CMAs for mineral material resources would reduce impacts.

IV.15.3.5.3 Impacts of Transmission Outside the DRECP Area

The impacts of transmission outside the DRECP area on mineral resources would be the same under all alternatives. These impacts are as described for the No Action Alternative in Section IV.15.3.1.3.

IV.15.3.5.4 Comparison of Alternative 3 With Preferred Alternative

This section summarizes the comparison of Alternative 3 with the Preferred Alternative (Table IV.15-17).

Table IV.15-17
Alternative 3 Compared With the Preferred Alternative on DFAs

Mineral Resource	Alternative 3 (acres)	Preferred Alternative (acres)	Comparison
Geothermal	14,300	12,000	Alternative 3 would result in 2,300 more acres of DFAs within geothermal resource areas than the Preferred Alternative. Both alternatives would have the same acres available for geothermal development within DFAs (4,000 acres).
High potential mineral areas	3,300	3,250	Alternative 3 would result in 50 more acres of DFAs within high potential mineral areas than the Preferred Alternative.
High priority mineral & energy locations	1,450	2,000	While proposed DFAs would overlap them, the existing high priority mineral and energy locations would be an allowable use under both alternatives.

Table IV.15-17
Alternative 3 Compared With the Preferred Alternative on DFAs

Mineral Resource	Alternative 3 (acres)	Preferred Alternative (acres)	Comparison
Rare earth element areas	0	0	Alternative 3 and Preferred Alternative would be the same.
Locatable mineral areas	600	700	Alternative 3 would result in 100 fewer acres of DFAs within locatable mineral areas than the Preferred Alternative.
Leasable mineral areas	0	0	Alternative 3 and Preferred Alternative would be the same.
Mineral material areas	1,700	1,600	Alternative 3 would result in 100 more acres of DFAs within mineral material areas than the Preferred Alternative.

Note: The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore, the subtotals may not sum to the total in the table.

A comparison between Alternative 3 and the Preferred Alternative within BLM Land Designations is summarized in Table IV.15-18.

Table IV.15-18
Alternative 3 Compared With Preferred Alternative on BLM Land Designations

Mineral Resource	Alternative 3 (acres)	Preferred Alternative (acres)	Comparison
Geothermal	100,400	82,000	Alternative 3 would have 18,400 more acres of BLM Land Designations within geothermal areas than the Preferred Alternative.
High potential mineral areas	740,500	644,000	Alternative 3 would have 96,500 more acres of BLM Land Designations and lands managed for wilderness characteristics within high potential mineral areas than the Preferred Alternative.
High priority mineral & energy locations	24,000	18,000	While proposed DFAs would overlap them, the existing high priority mineral and energy locations would be an allowable use under both alternatives.

Table IV.15-18
Alternative 3 Compared With Preferred Alternative on BLM Land Designations

Mineral Resource	Alternative 3 (acres)	Preferred Alternative (acres)	Comparison
Rare earth element areas	35,000	34,000	Alternative 3 would have 1,000 more acres of BLM Land Designations within rare earth element areas than the Preferred Alternative.
Locatable mineral areas	281,000	282,000	Alternative 3 would have 1,000 fewer acres of BLM Land Designations and lands managed for wilderness characteristics within locatable mineral areas than the Preferred Alternative.
ACEC acres closed to extraction	*9,000*	*2,000*	
Leasable mineral areas	49,000	48,000	Alternative 3 would have 1,000 more acres of BLM Land Designations within leasable mineral areas than the Preferred Alternative.
Mineral material areas	73,500	73,000	Alternative 3 would have 500 more acres of BLM Land Designations and lands managed for wilderness characteristics within mineral material areas than the Preferred Alternative.
ACEC acres closed to extraction	*1,000*	*100*	

Note: The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore, the subtotals may not sum to the total in the table.

IV.15.3.6 Alternative 4

This section addresses two components of effects of the Proposed LUPA—the streamlined development of renewable energy and transmission on BLM land under the LUPA and the impacts of the amended land use plans themselves.

IV.15.3.6.1 Impacts of Renewable Energy and Transmission Development – Alternative 4

Impact MR-1: Plan components would reduce or improve access to and development of known and future mineral resources.

Potential impacts on mineral resources resulting from renewable energy and transmission facility development within DFAs under Alternative 4 for BLM lands are summarized below and presented in Table IV.15-19.

Table IV.15-19
Estimated Acres of Mineral Resources Within DFAs by Technology Type on LUPA Lands – Alternative 4

Mineral Resources	Mineral Resources in LUPA (acres)	Potential Mineral Resource Impacts by Technology Type (acres)			
		Solar	*Wind*	*Geothermal*	*Transmission*
Geothermal resources	104,000	2,000	0	4,000	2,000
High potential mineral areas	816,000	700	100	100	600
High priority mineral & energy locations	76,000	300	0	0	0
Rare earth element areas	40,000	0	0	0	0
Locatable mineral areas	301,000	600	50	0	200
Leasable mineral areas	70,000	0	0	0	0
Mineral material areas	92,000	700	50	100	300

Note: The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore, the subtotals may not sum to the total in the table.

Restrictions and stipulations within BLM Land Designations, such as some ACECs and SRMAs, would allow limited mineral resource access. CMAs allowing mineral resource use with restrictions and stipulations would reduce adverse impacts on mineral resources under Alternative 4. Existing mining claims and mineral resource-related access would continue to be allowed, further reducing impacts.

Geothermal: There would be potential access restrictions to approximately 8,000 acres (6%) of geothermal resources from development of solar and transmission facilities within the LUPA Decision Area. There would be approximately 4,000 acres available for geothermal resource development, reducing impacts of the defined geothermal resources available. The potential access restrictions would be minimal relative to the geothermal resources within the LUPA Decision Area.

High Potential Mineral Areas: There would be potential access restrictions to approximately 1,500 acres of high potential mineral areas from development of solar, wind, geothermal, and transmission facilities within the LUPA Decision Area. This is approximately 0.2% of the defined high potential mineral areas. The potential access restrictions would be minimal relative to the high potential mineral areas within the LUPA Decision Area.

High Priority Mineral and Energy Locations: There would be approximately 300 acres of high priority mineral and energy locations within DFAs; however, per the CMAs for

minerals, these existing operations would be designated as an allowable use. There would be no potential access restrictions to the high priority mineral and energy locations within the LUPA Decision Area.

Rare Earth Element Areas: There would be no potential access restrictions to rare earth element areas from development of solar, wind, geothermal, or transmission facilities within the LUPA Decision Area.

Locatable Mineral Areas: There would be potential access restrictions to approximately 850 acres of locatable mineral areas from development of solar, wind, and transmission facilities within the LUPA Decision Area. This is approximately 0.3% of the defined locatable mineral areas. The potential access restrictions would be minimal relative to the locatable mineral areas within the LUPA Decision Area.

Leasable Mineral Areas: There would be no potential access restrictions to leasable mineral areas from development of solar, wind, geothermal, or transmission facilities within the LUPA Decision Area.

Mineral Material Areas: There would be potential access restrictions to approximately 1,150 acres of mineral material areas from development of solar, geothermal, and transmission facilities within the LUPA Decision Area. This is approximately 1% of the defined mineral material areas. The potential access restrictions would be minimal relative to the mineral material areas within the LUPA Decision Area.

Impacts on Variance Process Lands

Variance Process Lands represent the BLM Solar PEIS Variance Lands as screened for the Proposed LUPA based on BLM screening criteria. Development of renewable energy on Variance Process Lands would not require a LUPA; the environmental review process would be somewhat simpler than if the location were left undesignated. However, all solar, wind, and geothermal energy development applications would have to follow a variance process before BLM would determine whether to continue with processing them (see Volume II, Section II.3.3.3.2 for details of the variance process).

Under Alternative 4, there are 579,000 acres of Variance Process Lands in the LUPA Decision Area. These lands are found in the following areas:

- East of Highway 395, north of Independence in Inyo County
- South of Sandy Valley along the California–Nevada border
- West of Needles
- Near State Route 62, west of Parker, Arizona, near the California–Arizona border

- North of Blythe, immediately south of the Big Maria Mountains Wilderness
- South of State Route 98, east of Imperial Valley, along the California–Mexico border
- North of Hidden Hills along the California–Nevada border
- North of Interstate 15 east of Fort Irwin
- Surrounding the Owens Dry Lake
- East of California City north of Edwards Air Force Base
- Surrounding Barstow
- Scattered around Adelanto, Victorville, and in Lucerne Valley
- East and West of the City of Twentynine Palms
- South of Interstate 40 near Ludlow
- South of Historic Route 66 east of MCAGCC Twentynine Palms
- North of the Rice Valley Wilderness and Big Maria Mountains Wilderness along State Route 62
- South of Interstate 10 east of the Chuckwalla Mountains Wilderness
- South of Interstate 10, immediately north of the Palo Verde Mountains Wilderness
- Scattered west and south of the Chocolate Mountains east of the Imperial Sand Dunes including east of Holtville and south of State Route 98

Variance Process Lands may affect the following mineral resources:

- Geothermal Resources: Approximately 17,000 acres within the Imperial Borrego Valley ecoregion subarea.
- High Potential Mineral Areas: Approximately 87,000 acres, primarily within the Cadiz Valley and Chocolate Mountains and Imperial Borrego Valley ecoregion subareas.
- High Priority Mineral and Energy Locations: Approximately 15,000 acres, within the Imperial Borrego Valley ecoregion subarea.
- Rare Earth Element Areas: Approximately 100 acres within the Kingston and Funeral Mountains ecoregion subarea, potentially impacting the Molycorp Mountain Pass rare earth mine.
- Locatable Minerals: Approximately 47,000 acres throughout the majority of ecoregion subareas, with the majority within the Imperial Borrego Valley ecoregion subarea.
- Leasable Minerals: Approximately 18,000 acres all within the Providence and Bullion Mountains ecoregion subarea.

- Mineral Materials: Approximately 17,000 acres throughout the majority of ecoregion subareas, but primarily within the Imperial Borrego Valley ecoregion subarea.

Conservation and Management Actions

The conservation strategy for Alternative 4 (see Volume II, Section II.7.4) defines specific actions that would reduce the impacts of this alternative. The conservation strategy includes conservation lands and specific CMAs for the Preferred Alternative. While the CMAs were developed for BLM lands only, this analysis assumes that all CMAs would also apply to nonfederal lands.

Conservation and Management Actions in NLCS

CMAs under Alternative 4 for NLCS lands would be the same as the Preferred Alternative for mineral resources except for the following:

- **Leasable Minerals:** May be allowed. Nonsurface Occupancy is required outside nondesignated lands, Variance Process Lands, and DFAs.
- **Locatable Minerals:** Subject to deed restrictions, location of mining claims is nondiscretionary. Plans of operation will include actions to reduce potential impacts on sensitive receptors. Mitigation, subject to technical and economic feasibility, will be required.
- **Saleable Minerals:** Continuous use of existing areas of sand and gravel extractions is allowed, subject to BLM permits. New operations may also be allowed, subject to deed restrictions.

CMAs for NLCS – National Scenic and Historic Trails

- **Locatable Minerals:** Locatable minerals would be treated the same as limited or controlled use areas and a plan of operations will be required for greater than casual use (CFR 3809.11). Proposed for withdrawal, subject to valid existing rights and grandfathered uses. Develop priority list of ecoregion subareas for potential withdrawal. Initiate segregation of one subregion annually and complete mineral withdrawal review process (within 2-year time frame for each subregion).
- **Leasable Minerals:** Leasing permitted if values of conservation lands are protected or enhanced through mitigation or compensation.
- **Saleable Minerals:** Available for mineral materials development. Mitigation and compensation must result in a net benefit to NLCS.

IV.15.3.6.2 Impacts of Ecological and Cultural Conservation and Recreation Designations – Alternative 4

Impact MR-1: Plan components would reduce or improve access to and development of known and future mineral resources.

Potential impacts on mineral resources resulting from conservation designation lands under Alternative 4 are summarized below and in Table IV.15-20.

Table IV.15-20
Estimated Acres of Mineral Resources in LUPA Land Designations – Alternative 4

Mineral Resources	Mineral Resources in LUPA Lands (acres)	Mineral Resources in BLM Land Designations						
		SRMAs (acres)	*NLCS (acres)*	*ACEC (acres)*	*Wildlife Allocation (acres)*	*Managed LWCs (acres)*	*Trail Management Corridors (acres/miles)*	
Geothermal resources	127,000	24,000	19,600	39,000	0	0	0	0
High potential mineral areas	992,000	39,000	216,000	191,000	71,000	16,500	11,400	5
High priority mineral & energy locations	79,000	7,300	100	11,000	1,400	4,000	0	0
Rare earth element areas	60,000	0	10,500	25,000	0	0	0	0
Locatable mineral areas	306,000	13,300	119,200	47,000	0	2,000	100	0
Leasable mineral areas	71,000	0	5,000	0	44,000	0	0	0
Mineral material areas	97,000	16,300	21,200	17,400	0	1,000	600	0

LWC – Lands with wilderness characteristics
Note: There is overlap between some, but not all, BLM land designations, such as overlap of ACECs and NSHT management corridors or managed LWCs. This overlap may result in the appearance of greater acres of overlap between mineral resources and conservation lands than actually exists.
The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore, the subtotals may not sum to the total in the table.

Management actions for Alternative 4, within conservation designations on BLM-managed lands, include exploration and access and could continue following the area-specific

management plans, including disturbance caps. CMAs allowing mineral resource use with restrictions and stipulations would reduce adverse impacts on mineral resources. Existing mining claims and mineral resource-related access would continue to be allowed, further reducing impacts.

Geothermal: There would be potential access restrictions to approximately 82,600 acres of geothermal resources from existing and proposed BLM land designations. This is approximately 65% of the defined geothermal resources. The potential access restrictions would be moderate relative to the geothermal resources within the LUPA Decision Area. Existing authorized mineral and energy operations, including existing authorizations, modifications, extensions, and amendments and their required terms and conditions would be designated as an allowable use within all BLM lands in the LUPA Decision Area, and unpatented mining claims would be subject to valid existing rights. CMAs for mineral resources would further reduce potential impacts.

High Potential Mineral Areas: There would be potential access restrictions to approximately 544,900 acres of high potential mineral areas from existing and proposed BLM land designations. This is approximately 65% of the defined high potential mineral areas. Existing authorized mineral and energy operations, including existing authorizations, modifications, extensions, and amendments and their required terms and conditions would be designated as an allowable use within all BLM lands in the LUPA Decision Area, and unpatented mining claims would be subject to valid existing rights. CMAs for high potential mineral areas would further reduce impacts.

High Priority Mineral and Energy Locations: There would be approximately 23,800 acres within existing and proposed BLM land designations; however, per the CMAs for minerals, these existing operations would be designated as an allowable use. Therefore, there would be no potential access restrictions to the existing high priority mineral and energy locations within the LUPA Decision Area.

Rare Earth Element Areas: There would be potential access restrictions to approximately 35,500 acres of rare earth element areas from existing and proposed BLM land designations, primarily within the Kingston and Funeral Mountains and Pinto Lucerne Valley and Eastern Slopes ecoregion subareas. This is approximately 89% of the defined rare earth element areas.

Per mineral CMAs, existing authorized mineral and energy operations, including existing authorizations, modifications, extensions, and amendments and their required terms and conditions are designated as an allowable use within all BLM lands in the LUPA Decision Area, and unpatented mining claims are subject to valid existing rights. Amendments and expansions not authorized prior to the completion of the DRECP LUPA ROD would be

subject to applicable CMAs, including disturbance caps within Ecological and Cultural Conservation Areas, subject to valid existing rights. CMAs for existing operations would further reduce impacts. Overall, the potential restriction of access would likely be minor relative to the rare earth element areas within the LUPA Decision Area.

Locatable Mineral Areas: There would be potential access restrictions to approximately 181,600 acres of locatable mineral areas from existing and proposed BLM land designations. This is approximately 60% of the defined locatable mineral areas within LUPA lands. There are approximately 2,000 acres of ACECs closed to locatable mineral extraction; the remaining acres of ACECs would be open with stipulations and restrictions. CMAs for mineral resources state that established designated, approved, or authorized access routes to existing authorized operations and areas will be designated as allowable uses and access routes to Plans of Operation and Notices approved under 43 CFR 3809 will be granted subject to valid existing rights listed in 43 CFR 3809.100. These CMAs along with the additional CMAs for mineral resources would further reduce impacts.

Leasable Mineral Areas: There would be potential access restrictions to approximately 49,000 acres of leasable mineral areas from existing conservation and proposed conservation designations. This is approximately 69% of the defined leasable mineral areas. CMAs for leasable mineral areas would reduce impacts.

Mineral Material Areas: There would be potential access restrictions to approximately 56,500 acres of mineral material areas from existing and proposed BLM land designations. This is approximately 58% of the defined mineral material areas. There are approximately 400 acres of ACECs closed to mineral material extraction, the remaining acres of ACECs would be open with stipulations and restrictions. CMAs for mineral material resources would reduce impacts.

IV.15.3.6.3 Impacts of Transmission Outside the DRECP Area

The impacts of transmission outside the DRECP area on mineral resources would be the same under all alternatives. These impacts are as described for the No Action Alternative in Section IV.15.3.1.3.

IV.15.3.6.4 Comparison of Alternative 4 With Preferred Alternative

This section summarizes the comparison of Alternative 4 with the Preferred Alternative (Table IV.15-21).

Table IV.15-21
Alternative 4 Compared With the Preferred Alternative on DFAs

Mineral Resource	Alternative 4 (acres)	Preferred Alternative (acres)	Comparison
Geothermal	8,000	12,000	Alternative 4 would result in 4,000 fewer acres of DFAs within geothermal resource areas than the Preferred Alternative. Both alternatives would have the same acres available for geothermal development within DFAs (4,000 acres).
High potential mineral areas	1,500	3,250	Alternative 4 would result in 1,750 fewer acres of DFAs within high potential mineral areas than the Preferred Alternative.
High priority mineral & energy locations	300	2,000	While proposed DFAs would overlap them, the existing high priority mineral and energy locations would be an allowable use under both alternatives.
Rare earth element areas	0	0	Alternative 4 and Preferred Alternative would be the same.
Locatable mineral areas	850	700	Alternative 4 would result in 150 more acres of DFAs within locatable mineral areas than the Preferred Alternative.
Leasable mineral areas	0	0	Alternative 4 and Preferred Alternative would be the same.
Mineral material areas	1,150	1,600	Alternative 4 would result in 450 fewer acres of DFAs within mineral material areas than the Preferred Alternative.

Note: The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore, the subtotals may not sum to the total in the table.

A comparison between Alternative 4 and the Preferred Alternative within conservation designations for the BLM-administered lands is summarized in Table IV.15-22.

Table IV.15-22
Alternative 4 Compared With Preferred Alternative on BLM Land Designations

Mineral Resource	Alternative 4 (acres)	Preferred Alternative (acres)	Comparison
Geothermal	82,600	82,000	Alternative 4 would have 600 more acres of BLM Land Designations within geothermal areas than the Preferred Alternative.
High potential mineral areas	544,900	644,000	Alternative 4 would have 99,100 fewer acres of BLM Land Designations and lands managed for wilderness characteristics within high potential mineral areas than the Preferred Alternative.
High priority mineral & energy locations	23,800	18,000	While BLM Land Designations would overlap them, the existing high priority mineral and energy locations would be an allowable use under both alternatives.
Rare earth element areas	35,500	34,000	Alternative 4 would have 500 more acres of BLM Land Designations within rare earth element areas than the Preferred Alternative.
Locatable mineral areas	181,600	282,000	Alternative 4 would have 100,400 fewer acres of BLM Land Designations and lands managed for wilderness characteristics within locatable mineral areas than the Preferred Alternative.
ACEC acres closed to extraction	*2,000*	*2,000*	
Leasable mineral areas	49,000	48,000	Alternative 4 would have 1,000 more acres of BLM Land Designations within leasable mineral areas than the Preferred Alternative.
Mineral material areas	56,500	73,000	Alternative 4 would have 16,500 fewer acres of BLM Land Designations and lands managed for wilderness characteristics within mineral material areas than the Preferred Alternative.
ACEC acres closed to extraction	*400*	*100*	

Note: The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore, the subtotals may not sum to the total in the table.

IV.15.3.7 Summary of Alternatives

Table IV.15-23 summarizes the potential impacts on mineral resource areas, in acres, for each alternative. It is organized by technology type and existing and proposed BLM land designations, which include conservation lands and Variance Process Lands.

Table IV.15-23
Summary Alternative Comparison of Potential Mineral Resource Impacts by Technology and BLM Land Designations

Mineral Resource	No Action Alternative	Preferred Alternative	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Technology Impacts (acres)						
Geothermal resources	4,100	12,000	13,000	9,300	14,300	8,000
High potential mineral areas	6,130	3,250	2,000	5,300	3,300	1,500
High priority mineral & energy locations	340	2,000	50	700	1,450	300
Rare earth element areas	700	0	0	100	0	0
Locatable mineral areas	4,420	700	300	3,600	600	850
Leasable mineral areas	0	0	0	0	0	0
Mineral material areas	1,560	1,600	640	1,200	1,700	1,150
TOTAL	**17,250**	**19,550**	**15,990**	**20,200**	**21,350**	**11,800**
Existing and Proposed BLM Land Designations (acres)						
Geothermal resources	57,000	82,000	82,500	95,400	100,400	82,600
High potential mineral areas	427,000	644,000	538,000	807,500	740,500	544,900
High priority mineral & energy locations	0	18,000	20,600	47,000	24,000	23,800
Rare earth element areas	32,000	34,000	34,000	43,000	35,000	35,500
Locatable mineral areas	111,000	282,000	250,000	270,000	281,000	181,600
Leasable mineral areas	0	48,500	49,000	70,000	49,000	49,000
Mineral material areas	55,600	73,000	62,500	93,000	73,500	56,500
TOTAL	**682,600**	**1,181,500**	**1,036,600**	**1,425,900**	**1,303,400**	**973,900**

Note: The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to the nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore, the subtotals may not sum to the total in the table.